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Journal of Bangladesh College of Physicians and Surgeons (JBCPS)

INFORMATION FOR AUTHORS

MANUSCRIPT PREPARATION AND SUBMISSION

Guide to Authors

The Journal of Bangladesh College of Physician and Surgeons, provides rapid publication (quarterly publication) of articles in all areas of the subject. The Journal welcomes the submission of manuscripts that meet the general criteria of significance and scientific excellence.

Papers must be submitted with the understanding that they have not been published elsewhere (except in the form of an abstract or as part of a published lecture, review, or thesis) and are not currently under consideration by another journal published by INTERNATIONAL RESEARCH JOURNALS or any other publisher.

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Electronic submission of manuscripts is strongly encouraged, provided that the text, tables, and figures are included in a single Microsoft Word file (preferably in Arial font).

Submit manuscripts as e-mail attachment to the editorial office at: journal.bcps@gmail.com.

A manuscript number will be mailed to the corresponding author within two working days.

The cover letter should include the corresponding author’s full address and telephone/fax numbers and should be in an e-mail message sent to the editor, with the file, whose name should begin with the first author’s surname, as an attachment.

The Journal of Bangladesh College of Physicians and Surgeons will only accept manuscripts submitted as e-mail attachments or triplicate Hard copy with a soft copy.

Article Types:

Five types of manuscripts may be submitted:

Editorials: It will be preferably written invited only and usually covers a single topic of contemporary interest.

Original Articles: These should describe new and carefully confirmed findings, and experimental procedures should be given in sufficient detail for others to verify the work. The length of a full paper should be the minimum required to describe and interpret the work clearly.

Short Communications: A Short Communication is suitable for recording the results of complete small investigations or giving details of new models or hypotheses, innovative methods, techniques, images in clinical practice, letter to editors, short reports or apparatus. The style of main sections need not conform to that of original article. Short communications are 2 to 4 printed pages (about 6 to 12 manuscript pages) in length.

Reviews: Submissions of reviews and perspectives covering topics of current interest are welcome and encouraged. Reviews should be concise and no longer than 4 to 6 printed pages (about 12 to 18 manuscript pages). It should be focused and must be up to date. Reviews are also peer-reviewed.

Case Reports: This should cover uncommon and/or interesting cases with appropriate confirmation process.

Review Process:

All manuscripts are initially screened by editor and sent to selective reviewer. Decisions will be made as
rapidly as possible, and the journal strives to return reviewers’ comments to authors within 3 weeks. The editorial board will re-review manuscripts that are accepted pending revision. The JBCPS editorial board will try to publish the manuscript as early as possible fulfilling all the rigorous standard journal needs.

I. A. Preparing a Manuscript for Submission to JBCPS

Editors and reviewers spend many hours reading manuscripts, and therefore appreciate receiving manuscripts that are easy to read and edit. Much of the information in this journal’s Instructions to Authors is designed to accomplish that goal in ways that meet each journal’s particular editorial needs. The following information provides guidance in preparing manuscripts for this journal.

Conditions for submission of manuscript:

• All manuscripts are subject to peer-review.

• Manuscripts are received with the explicit understanding that they are not under simultaneous consideration by any other publication.

• Submission of a manuscript for publication implies the transfer of the copyright from the author to the publisher upon acceptance. Accepted manuscripts become the permanent property of the Journal of Bangladesh College of Physicians and Surgeons and may not be reproduced by any means in whole or in part without the written consent of the publisher.

• It is the author’s responsibility to obtain permission to reproduce illustrations, tables etc. from other publications.

Ethical aspects:

• Ethical aspect of the study will be very carefully considered at the time of assessment of the manuscript.

• Any manuscript that includes table, illustration or photograph that have been published earlier should accompany a letter of permission for re-publication from the author(s) of the publication and editor/publisher of the Journal where it was published earlier.

• Permission of the patients and/or their families to reproduce photographs of the patients where identity is not disguised should be sent with the manuscript. Otherwise the identity will be blackened out.

Preparation of manuscript:

Criteria: Information provided in the manuscript are important and likely to be of interest to an international readership.

Preparation:

1. Manuscript should be written in English and typed on one side of A4 (290 x 210cm) size white paper.

2. Margin should be 5 cm for the header and 2.5 cm for the remainder.

3. Style should be that of modified Vancouver.

4. Each of the following section should begin on separate page:
   ○ Title page
   ○ Summary/abstract
   ○ Text
   ○ Acknowledgement
   ○ References
   ○ Tables and legends

Pages should be numbered consecutively at the upper right hand corner of each page beginning with the title page.

I. A. 1. a. General Principles

• The text of observational and experimental articles is usually (but not necessarily) divided into the following sections: Introduction, Methods, Results, and Discussion. This so-called “IMRAD” structure is a direct reflection of the process of scientific discovery.

• Long articles may need subheadings within some sections (especially Results and Discussion) to clarify their content. Other types of articles, such as case reports, reviews, and editorials, probably need to be formatted differently.

• Electronic formats have created opportunities for adding details or whole sections, layering information, crosslinking or extracting portions of articles, and the like only in the electronic version.

• Authors need to work closely with editors in developing or using such new publication formats and should submit supplementary electronic material for peer review.

• Double-spacing all portions of the manuscript—including the title page, abstract, text, acknowledgments, references, individual tables, and legends—
and generous margins make it possible for editors and reviewers to edit the text line by line and add comments and queries directly on the paper copy.

- If manuscripts are submitted electronically, the files should be double-spaced to facilitate printing for reviewing and editing.
- Authors should number on right upper all of the pages of the manuscript consecutively, beginning with the title page, to facilitate the editorial process.

I. A. 1. b. Reporting Guidelines for Specific Study Designs

Research reports frequently omit important information. Reporting guidelines have been developed for a number of study designs that JBCPS journals ask authors to follow. Authors should consult the Information for Authors of this journal. The general requirements listed in the next section relate to reporting essential elements for all study designs. Authors are encouraged also to consult reporting guidelines relevant to their specific research design. A good source of reporting guidelines is the EQUATOR Network (http://www.equator-network.org/home/) or CONSORT network (http://www.consort-statement.org).

I. A. 2. Title Page

The title page should have the following information:

1. Article title. Concise titles are easier to read than long, convoluted ones. Titles that are too short may, however, lack important information, such as study design (which is particularly important in identifying type of trials). Authors should include all information in the title that will make electronic retrieval of the article both sensitive and specific.

2. Authors’ names and institutional affiliations.

3. The name of the department(s) and institution(s) to which the work should be attributed.

4. Disclaimers, if any.

5. Contact information for corresponding authors. The name, mailing address, telephone and fax numbers, and e-mail address of the author responsible for correspondence about the manuscript.

6. The name and address of the author to whom requests for reprints should be addressed or a Statement that reprints are not available from the authors.

7. Source(s) of support in the form of grants, equipment, drugs, or all of these.

8. A short running head or footline, of no more than 40 characters (including letters and spaces). Running heads are published and also used within the editorial office for filing and locating manuscripts.

9. The number of figures and tables. It is difficult for editorial staff and reviewers to determine whether the figures and tables that should have accompanied a manuscript were actually included unless the numbers of figures and tables are noted on the title page.

I. A. 3. Conflict-of-Interest Notification Page

To prevent potential conflicts of interest from being overlooked or misplaced, this information needs to be part of the manuscript. The ICMJE has developed a uniform disclosure form for use by ICMJE member journals (http://www.icmje.org/coi_disclosure.pdf) and JBCPS has accepted that.

I. A. 4. Abstract

- Structured abstracts are essential for original research and systematic reviews. Structured abstract means introduction, methods, results and conclusion in abstract.

- Should be limited to 250 words.

- The abstract should provide the introduction of the study and blinded state and should state the study's purpose, basic procedures (selection of study subjects or laboratory animals, observational and analytical methods), main findings (giving specific effect sizes and their statistical significance, if possible), principal conclusions. It should emphasize new and important aspects of the study or observations. Articles on clinical trials should contain abstracts that include the items that the CONSORT group has identified as essential (http://www.consort-statement.org).

- Because abstracts are the only substantive portion of the article indexed in many electronic databases, and the only portion many readers read, authors need to be careful that they accurately reflect the content of the article.
I. A. 5. Introduction

- Provide a context or background for the study (that is, the nature of the problem and its significance). It should be very specific, identify the specific knowledge in the aspect, reasoning and what the study aim to answer.
- State the specific purpose or research objective of, or hypothesis tested by, the study or observation; the research objective is often more sharply focused when stated as a question.
- Both the main and secondary objectives should be clear.
- Provide only directly pertinent primary references, and do not include data or conclusions from the work being reported.

I. A. 6. Methods

The Methods section should be written in such way that another researcher can replicate the study.

I. A. 6. a. Selection and Description of Participants

- Describe your selection of the observational or experimental participants (patients or laboratory animals, including controls) clearly, including eligibility and exclusion criteria and a description of the source population. Because the relevance of such variables as age and sex to the object of research is not always clear, authors should explain their use when they are included in a study report—for example, authors should explain why only participants of certain ages were included or why women were excluded. The guiding principle should be clarity about how and why a study was done in a particular way. When authors use such variables as race or ethnicity, they should define how they measured these variables and justify their relevance.

I. A. 6. b. Technical Information

- Identify the methods, apparatus (give the manufacturer’s name and address in parentheses), and procedures insufficient detail to allow others to reproduce the results. Give references to established methods, including statistical methods (see below); provide references and brief descriptions for methods that have been published but are not well-known; describe new or substantially modified methods, give the reasons for using them, and evaluate their limitations. Identify precisely all drugs and chemicals used, including generic name(s), dose(s), and route(s) of administration.
- Authors submitting review article should include a section describing the methods used for locating, selecting, extracting, and synthesizing data. These methods should also be summarized in the abstract.

I. A. 6. c. Statistics

- Describe statistical methods with enough detail to enable a knowledgeable reader with access to the original data to verify the reported results. When possible, quantify findings and present them with appropriate indicators of measurement error or uncertainty (such as confidence intervals).
- Avoid relying solely on statistical hypothesis testing, such as P values, which fail to convey important information about effect size. References for the design of the study and statistical methods should be to standard works when possible (with pages stated).
- Define statistical terms, abbreviations, and most symbols.
- Specify the computer software used.

I. A. 7. Results

- Present results in logical sequence in the text, tables, and illustrations, giving the main or most important findings first. Please keep the result the sequence of specific objective selected earlier.
- Do not repeat all the data in the tables or illustrations in the text; emphasize or summarize only the most important observations. Extra or supplementary materials and technical detail can be placed in an appendix where they will be accessible but will not interrupt the flow of the text, or they can be published solely in the electronic version of the journal.
- When data are summarized in the Results section, give numeric results not only as derivatives (for example, percentages) but also as the absolute numbers from which the derivatives were calculated, and specify the statistical methods used to analyze them.
- Restrict tables and figures to those needed to explain the argument of the paper and to assess supporting data. Use graphs as an alternative to tables with many entries; do not duplicate data in graphs and tables.
• Avoid nontechnical uses of technical terms in statistics, such as “random” (which implies a randomizing device), “normal,” “significant,” “correlations,” and “sample.” Where scientifically appropriate, analyses of the data by such variables as age and sex should be included.

I. A. 8. Discussion
• Emphasize the new and important aspects of the study and the conclusions that follow from them in the context of the totality of the best available evidence.
• Do not repeat in detail data or other information given in the Introduction or the Results section.
• For experimental studies, it is useful to begin the discussion by briefly summarizing the main findings, then explore possible mechanisms or explanations for these findings, compare and contrast the results with other relevant studies, state the limitations of the study, and explore the implications of the findings for future research and for clinical practice.
• Link the conclusions with the goals of the study but avoid unqualified statements and conclusions not adequately supported by the data. In particular, avoid making statements on economic benefits and costs unless the manuscript includes the appropriate economic data and analyses. Avoid claiming priority or alluding to work that has not been completed. State new hypotheses when warranted, but label them clearly as such.

I. A. 9. References
I. A. 9. a. General Considerations Related to References
• Although references to review articles can be an efficient way to guide readers to a body of literature, review articles do not always reflect original work accurately. Readers should therefore be provided with direct references to original research sources whenever possible.
• On the other hand, extensive lists of references to original work of a topic can use excessive space on the printed page. Small numbers of references to key original papers often serve as well as more exhaustive lists, particularly since references can now be added to the electronic version of published papers, and since electronic literature searching allows readers to retrieve published literature efficiently.
• Avoid using abstracts as references. References to papers accepted but not yet published should be designated as “in press” or “forthcoming”; authors should obtain written permission to cite such papers as well as verification that they have been accepted for publication.
• Information from manuscripts submitted but not accepted should be cited in the text as “unpublished observations” with written permission from the source.
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• Authors are responsible for checking that none of the references cite retracted articles except in the context of referring to the retraction. For articles published in journals indexed in MEDLINE, the ICMJE considers PubMed the authoritative source for information about retractions.

I. A. 9. b. Reference Style and Format
• References should be numbered consecutively in the order in which they are first mentioned in the text.
• Identify references in text, tables, and legends by Arabic numerals in superscript.
• References cited only in tables or figure legends should be numbered in accordance with the sequence established by the first identification in the text of the particular table or figure.
I. A. 10. Tables
• Tables capture information concisely and display it efficiently.
• Use tables/fig that are relevant to study.
• Try to limit the number of tables/figure.
• Type or print each table with double-spacing on a separate sheet of paper. Number tables consecutively in the order of their first citation in the text and supply a brief title for each.
• Do not use internal horizontal or vertical lines. Give each column a short or an abbreviated heading. Authors should place explanatory matter in footnotes, not in the heading. Explain all nonstandard abbreviations in footnotes, and use the following symbols, in sequence:
  *, †, ‡, §, _, ¶, **, ††, ‡‡, §§, _ _, ¶¶, etc.
• Identify statistical measures of variations, such as standard deviation and standard error of the mean.
• Be sure that each table is cited in the text. If you use data from another published or unpublished source, obtain permission and acknowledge that source fully.

I. A. 11. Illustrations (Figures)
• Figures should be either professionally drawn and photographed, or submitted as photographic-quality digital prints. In addition to requiring a version of the figures suitable for printing, (for example, JPEG / GIF).
• Authors should review the images of such files on a computer screen before submitting them to be sure they meet their own quality standards. For x-ray films, scans, and other diagnostic images, as well as pictures of pathology specimens or photomicrographs, send sharp, glossy, black-and-white or color photographic prints, usually 127 _ 173 mm (5 _ 7 inches).
• Letters, numbers, and symbols on figures should therefore be clear and consistent throughout, and large enough to remain legible when the figure is reduced for publication.
• Photographs of potentially identifiable people must be accompanied by written permission to use the photograph. Figures should be numbered consecutively according to the order in which they have been cited in the text.
• If a figure has been published previously, acknowledge the original source and submit written permission from the copyright holder to reproduce the figure. Permission is required irrespective of authorship or publisher except for documents in the public domain.
• For illustrations in color, JBCPS accept coloured illustration but when it seems essential. This Journal publish illustrations in color only if the author pays the additional cost. Authors should consult the journal about requirements for figures submitted in electronic formats.

I. A. 12. Legends for Illustrations (Figures)
• Type or print out legends for illustrations using double spacing, starting on a separate page, with Arabic numerals corresponding to the illustrations.
• When symbols, arrows, numbers, or letters are used to identify parts of the illustrations, identify and explain each one clearly in the legend. Explain the internal scale and identify the method of staining in photomicrographs.

I. A. 13. Units of Measurement
• Measurements of length, height, weight, and volume should be reported in metric units (meter, kilogram, or liter) or their decimal multiples.
• Authors should report laboratory information in both local and International System of Units (SI).
• Drug concentrations may be reported in either SI or mass units, but the alternative should be provided in parentheses where appropriate.

I. A. 14. Abbreviations and Symbols
• Use only standard abbreviations; use of nonstandard abbreviations can be confusing to readers.
• Avoid abbreviations in the title of the manuscript.
• The spelled-out abbreviation followed by the abbreviation in parenthesis should be used on first mention unless the abbreviation is a standard unit of measurement.

I. B. Sending the Manuscript to the Journal
• If a paper version of the manuscript is submitted, send the required number of copies of the manuscript and figures; they are all needed for peer review and editing, and the editorial office staff cannot be expected to make the required copies.
Manuscripts must be accompanied by a cover letter, conflicts of interest form, authorship and declaration, proforma of which is available in JBCPS web site.

**Editing and peer review:** All submitted manuscripts are subject to scrutiny by the Editor-in-chief or any member of the Editorial Board. Manuscripts containing materials without sufficient scientific value and of a priority issue, or not fulfilling the requirement for publication may be rejected or it may be sent back to the author(s) for resubmission with necessary modifications to suit one of the submission categories. Manuscripts fulfilling the requirements and found suitable for consideration are sent for peer review. Submissions, found suitable for publication by the reviewer, may need revision/modifications before being finally accepted. Editorial Board finally decides upon the publishability of the reviewed and revised/modified submission. Proof of accepted manuscript may be sent to the authors, and should be corrected and returned to the editorial office within one week. No addition to the manuscript at this stage will be accepted. All accepted manuscripts are edited according to the Journal’s style.

**Submission Preparation Checklist**
As part of the submission process, authors are required to check off their submission’s compliance with all of the following items, and submissions may be returned to authors that do not adhere to these guidelines.

**Check Lists**
Final checklists before you submit your revised article for the possible publication in the Journal of Bangladesh College of Physicians and Surgeons:
1. Forwarding/Cover letter and declaration form,
2. Authorship and conflicts of interest form,
3. Manuscript
   - Sample of the above documents is available in the following links: http://www.bcpsbd.org (registration required for download)
   - If you have submitted mention document (1, 2, 3) above, when you first submitted your article then you don’t need to re-submit but if there is change in the authorship or related then you have to re-submit it.

**General outline for article presentation and format**
- Double spacing
- Font size should be 12 in arial
- Margins 5 cm from above and 2.5 cm from rest sides.
- Title page contains all the desired information (vide supra)
- Running title provided (not more than 40 characters)
- Headings in title case (not ALL CAPITALS, not underlined)
- References cited in superscript in the text without brackets after with/without comma (,) or full stop (.)
- References according to the journal’s instructions – abide by the rules of Vancouver system. Use this link to get into the detail of Vancouver system.

**Language and grammar**
- Uniformity in the language
- Abbreviations spelt out in full for the first time
- Numerals from 1 to 10 spelt out
- Numerals at the beginning of the sentence spelt out

**Tables and figures**
- No repetition of data in tables/graphs and in text
- Actual numbers from which graphs drawn, provided
- Figures necessary and of good quality (colour)
- Table and figure numbers in Arabic letters (not Roman)
- Labels pasted on back of the photographs (no names written)
- Figure legends provided (not more than 40 words)
- Patients’ privacy maintained (if not, written permission enclosed)
- Credit note for borrowed figures/tables provided
- Each table/figure in separate page
If you have any specific queries please use at www.bcps.com

Manuscript Format for Research Article

- **Title**
  - Complete title of your article
  - Complete author information
  - Mention conflict of interest if any

- **Abstract**
  - Do not use subheadings in the abstract
  - Give full title of the manuscript in the Abstract page
  - Not more than 200 words for case reports and 250 words for original articles
  - Structured abstract (Including introduction, methods, results and discussion, conclusion) provided for an original article and (Introduction, results and discussion, conclusion) for case reports.
  - Key words provided – arrange them in alphabetical order (three – five )

- **Introduction**
  - Word limit 150-200 words
  - Pertinent information only

- **Material and Methods**
  - Study Design
  - Duration and place of study
  - Ethical approval
  - Patient consent
  - Statistical analysis and software used.

- **Result**
  - Clearly present the data
  - Avoid data redundancy
  - Use table information at the end of the sentence before full stop between the small bracket

- **Discussion**
  - Avoid unnecessary explanation of someone else work unless it is very relevant to the study
  - Provide and discuss with the literatures to support the study
  - Mention about limitation of your study

- **Conclusion**
  - Give your conclusion
  - Any recommendation

- **Acknowledgement**
  - Acknowledge any person or institute who have helped for the study

- **Reference**
  - Abide by the Vancouver style
  - Use reference at the end of the sentence after the full stop with superscript

- **Legends**
  - Table
  - Figures

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# JOURNAL OF BANGLADESH COLLEGE OF PHYSICIANS AND SURGEONS

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There has been an alarming rise in road traffic accidents in Bangladesh over the past few years and has become a national problem. Everyday around eight persons die in road traffic accidents. The actual rate of fatality is likely to be even higher. The number of accidents has increased by 43% between 1982 and 2000, while the number of fatalities has increased by around 400% within the same period\(^1\). It increases more on the eve of festivals. In the last 21 years 84 thousand road traffic accidents occurred, 56 thousand people died and 63 thousand injured.

At least 4,284 people were killed and 9,112 others injured in road traffic accidents across Bangladesh in 2017. A total of 3,412 people died and 8,572 others injured by this in 2016. The number of accidents increased by 15.82% and death increased by 25.56% in 2017 compared to 2016\(^2\). A total of 2,123 people died and 5,558 others were injured in the first four months of this year\(^3\). But only this numerically shocking statistics may fail to reflect the social tragedy related to each life lost in road traffic accidents.

Road traffic accidents in our country is multifactorial. Rapid urbanization and motorization can be identified as vital factors leading to higher number of road traffic accidents. Reasons behind the increased number of accidents and casualties include: reckless driving, over speeding, overloading, overtaking, violating laws, illegal and dangerous competition, long-time driving without break, use of drug and alcohol, incompetency of the driver, hazardous road, lack of proper design and construction of the road, lack of safety measures, lack of road maintenance, poor implementation of traffic rules and regulations, lack of awareness among the people, presence of market near busy highways and plying of three wheeler-vehicles, motorbikes, and locally-made mechanized vehicles.

RTA alone costs 1 %, 1.5% and 2% of the gross national product (GNP) of low, middle, and high income countries respectively. For low and middle income countries, this exceeds the total developmental aid received. According to the Guardian, the country loses an estimated 1.2 billion pounds due to road traffic accidents per year, equivalent to 2% of GDP and all of the foreign aid that Bangladesh receives annually. According to UNICEF, roughly 38,000 children become orphans every year because of road fatalities. In broad terms the economic burden of injury can be summarized into areas like: a. Medical costs- pre-hospital care, transport, emergency medical services, hospitalization, investigations, drugs and appliances, rehabilitation, mental health and administrative costs of medical care. b. Costs of damage to or loss of property. c. Indirect costs like lost productivity, lost wages of victims, productivity losses by families and friends involved in care, travel delay for uninjured travelers that results from road crashes, productivity losses of employers on account of hiring and training replacement workers. d. Cost in terms of quality of life- economic value of pain and suffering, disability and death.

The traffic police department has a crucial role to play in identifying and holding accountable reckless driving, speeding and unstable or overloaded vehicles. The maintenance, repair and expansion of roads coupled with setting up dividers on national highways, cautioning signals for hazardous locations, disseminating information on driving and road safety to masses through media and exemplary punishment for violating traffic laws are some of the main areas that need to be worked on rigorously by the government.

As citizens, we also have a role to play in ensuring road safety. While travelling in public transports, passengers should protest and stop speeding and reckless driving by bus and taxi drivers. Owners of motor vehicles should ensure that employed drivers have genuine licenses, they are properly trained and drive responsibly. Road safety education to pedestrians, especially the children, by community leaders is also a good way to promote road safety. Some road safety initiatives in Bangladesh are the adoption of National Land Transport Policy (NLTP), establishment of...
National Road Safety Council (NRSC), establishment of road safety cell and district road safety committee, establishment of Accident Research Institute (ARI) at BUET, establishment of highway police, formation of road safety voluntary & advisory group, preparation of national road safety strategic action plans, training of road safety professionals, NGO initiatives towards road safety and geometric improvement of roads.

In conclusion it can be said that, the unsafe roads are a key public health challenge. One of the goals of development is to improve health outcomes by reducing premature mortality, injuries and disability. The high rate of fatal accidents in Bangladesh is an alarming issue and time has arrived to confront this multi-sectorial challenge. For a developing country like Bangladesh, allowing its citizen to perish to road traffic accidents is not only tragic but also unacceptable. Many steps has been taken by government for improving road safety. However, not many tangible results have been achieved so far. It is imperative to review the measures adopted to identify the problems of implementation and improve or modify them so that they can be more effective.

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References:
2. The National Committee to Protect Shipping, Roads and Railways (NCPSRR) report.
Early outcome of “Modified Uncut Roux-En-Y” Technique in Gastric Reconstruction Surgery

ABMM RAHMANa, TALAMb, AHMS ALAMc, AKMMU BHUIYANd, MS HOSSAINe, MA RANAF

Summary:

Loop gastro-jejunostomy and Roux-en-Y gastro-jejunostomy, the commonest reconstructions in gastric surgery, are significantly associated with alkaline reflux gastritis and Roux stasis syndrome (RSS) respectively. The Modified Uncut Roux-en-Y (MUREY) technique could be an effective technique in preventing both the conditions.

This prospective observational study was designed to evaluate the effectiveness of Modified UREY reconstruction to prevent RSS and Alkaline reflux gastro-esophagitis while avoiding “Staple-line dehiscence”. A total of 47 patients of gastric outlet obstruction, both benign and malignant, undergoing Modified Uncut Roux-en-Y reconstruction with/without Gastrectomy at BMCH over the span of July 2014 to July 2016, were incorporated in this study. Patients were followed up from the immediate post-operative periods till discharge and postoperatively for 2 months.

There was no incidence of bile reflux or bilious vomiting in the follow-up period. There were two (4.3%) incidences of RSS among the 47 patients (P<0.001). Postoperative endoscopy was carried out in 9 patients to assess the integrity of staple line occlusion which revealed normal looking mucosa of upper GIT with an intact staple line occlusion. There was significant decrease in the average Visick score, from 3.5±0.6 (SD) preoperatively to 1.2±0.4(SD) in the post-operative period. Average increase in the body weight at the time of final follow-up was 6.7%±5.1 kg.

The Modified “Uncut Roux-En-Y” reconstruction technique is both feasible and safe. It is effective in preventing RSS and alkaline reflux gastritis while preventing Staple-line dehiscence and, can be a preferred technique of gastric bypass.

Keywords: Modified Uncut Roux-en-Y (MUREY), Roux Stasis Syndrome (RSS), Biliary reflux.

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Introduction:

Loop gastro-jejunostomy with or without partial gastrectomy is inherently associated with bile reflux gastritis, leading to an unacceptably higher incidence of post-operative recovery period. Roux-en-Y reconstruction, on the other hand, primarily designed for bile reflux prevention, poses another problem on itself, the roux stasis syndrome (RSS)1. Conceptualizing the basic principle of conventional REY, the “Uncut Roux-en-Y” reconstruction can prevent alkaline reflux following gastro-jejunostomy by occluding the afferent jejunal loop adjacent to the G-J stoma, hence called the “Uncut Roux en Y (UREY)” procedure (Fig 1)1. In addition, it can avoid RSS that accompanies the standard REY procedure2-9, as anatomical continuity of jejunum is preserved. Other international publications, however, showcased incidences of staple line dehiscence10,11, put the objectives of the procedure into question. To prevent staple-line dehiscence, a series of interrupted non-absorbable sero-muscular sutures over the staple line was now advocated, called the “Modified Uncut Roux-en-Y “(MUREY) procedure11. The purpose of our study...
was, therefore, to evaluate the early clinical outcome of this modified technique and effectiveness of the procedure in alleviating the reflux induced GI symptoms and patients convalescence following the MUREY procedure.

Materials and Method:
Clinical data of 47 cases, 40 malignant and 7 benign cases undergoing Modified Uncut Roux-en-Y gastric bypass with or without gastrectomy with follow-up data from January 2014 to July 2016 was purposefully incorporated in this study. Patients underwent total gastrectomy, non-resectable gastric malignancy, recurrent gastric carcinoma, h/o previous gastric surgery were excluded from the study. Observations were made during immediate post-operative periods till discharge and subsequent monthly follow-up for 2 months in the OPD and over telephone regarding the nature of naso-gastric aspirates, presence or absence of bilious vomiting, amount and quality of food intake, post-prandial symptoms and weight gain. Status of the overall quality of life was assessed using the “Visick” grade12. Postoperative endoscopy was carried out in 9 patients to assess the integrity of staple line closure and in search of the evidence of reflux biliary gastro-esophagitis.

Modified Visick grade
Grade 1 - No symptoms, perfect result
Grade 2 - Patient states that results are perfect, but symptoms can be elicited
Grade 3 - Mild to moderate symptoms, patient and surgeon satisfied with the result
Grade 4 - Mild to moderate symptoms, patient and surgeon dissatisfied

Operative Technique:
The procedures were performed under G/A. For gastric carcinoma, sub-total gastrectomy and loop gastro-jejunostomy with standard D1+/D2 lymphadenectomy were done. Whereas, laparoscopy assisted bilateral truncal vagotomy and loop gastro-jejunostomy were done for benign gastric outlet obstruction.

For the “Uncut” part of the procedure, jejunal lumen was occluded 25-45 cm distal to the ligament of Treitz using a single, double- row non-cutting linear GI stapler (Fig 2). The staple line was then reinforced by interrupted seromuscular sutures with 3/0 silk to prevent staple line dehiscence (Fig 3). Gastro-jejunostomy was constructed 5 cm distal to the jejunal occlusion site. Approximately 20-30 cm distal to the anastomosis, on the efferent limb, a “Braun” side to side jejuno-jejunostomy was created with the afferent limb for diverting duodenal fluids (Fig 4). This anastomosis corresponds to a site 10-20 cm distal to the ligament of Treitz on the proximal jejunum (afferent limb).

For laparoscopy assisted procedure, bilateral truncal vagotomy and gastro-jejunostomy was carried out using a 10mm supra-umbilical camera port and two working ports of 10mm and 5mm in diameter, placed right lateral to the camera port in mid-clavicular and anterior axillary line respectively. An additional 5mm port was used in epigastrium for liver retraction. The “Modified Uncut” portion of the procedure was carried out extra corporeally, by enlarging the supra-umbilical port to the left of the patient.
Results:

47 patients, 13 female and 34 male, aged between 35 to 66 years, average being 51.2±10.12 years (Mean±SD) received modified uncut Roux En Y gastric bypass, analyzed in this study. Among them, 40 patients had carcinoma stomach and the rest had gastric outlet obstruction from chronic PUD (Fig 5). The average time taken to perform the “Modified Uncut Roux – En- Y” component of the procedure was 24±4.7 minutes (Mean±SD) (Fig 6). The duration of the MUREY component of the procedure was recorded, starting after completion of gastro-jejunostomy to the completion of both jejun- jejunostomy and the jejunal occlusion. The average post-operative hospital stay was 9.3±3.4 days (Mean±SD). The minimum postoperative stay was 5 days while the maximum stay being for a period of 20 days. The Superficial wound infection occurred in 3 patients which resolved with regular dressing. One patient developed burst abdomen which was repaired under general anesthesia. Paralytic ileus was seen in two patients, settled with conservative management. As per clinical criteria, there was two (4.3%) incidences of Roux Stasis Syndrome (RSS) among the 47 patients after the 8 weeks follow-up period (p<0.005) (Table 1). There were one hundred and seventy four (174) symptoms preoperatively among the 47 patients with an average of 3.9±0.5
(mean±SD) symptoms per patients. At the time of final follow-up, only two patients (4.3%) complained of post-prandial pain, with an average being, 0.1±0.2 (mean±SD) symptoms per patient after 8 weeks (Fig 7). There was no incidence of bile reflux, anastomotic leakage and duodenal blow-out. Post-operative endoscopy was carried out in 9(19.14%) patients which revealed integrated staple line occlusion at the afferent jejunal loop with no evidence of biliary reflux in the stomach or its remnants. The average preoperative weight of the patient was 53.6kg±5.9 (mean+SD), dropped by 6.4%±2.8(mean+SD) by the 5th postoperative day. The average time taken to regain the lost weight was about 3 weeks. The percentage increase in body weight, on average, at final follow up was 6.7%±5.1 (mean+SD) (Fig 8). The study also showed a significant decrease in the average Visick Score postoperatively (p<0.0001), depicting significant increase in the overall quality of life. The average preoperative Visick Score was 3.5±0.6 (mean+SD), which improved postoperatively to 1.2±0.4 (mean+SD) by the time of final follow up after 8 weeks (Fig 9). There was no mortality in the study period (Table 1).

<table>
<thead>
<tr>
<th>Complication</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burst Abdomen</td>
<td>2</td>
<td>4.3</td>
</tr>
<tr>
<td>Superficial Wound Infection</td>
<td>3</td>
<td>6.4</td>
</tr>
<tr>
<td>Bile Reflux</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Roux Stasis Syndrome</td>
<td>2</td>
<td>4.3</td>
</tr>
<tr>
<td>Anastomotic Leakage</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Staple Line Dehiscence</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Duodenal Stump Leakage</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Persistent Pain</td>
<td>1</td>
<td>2.1</td>
</tr>
<tr>
<td>Paralytic Ileus</td>
<td>2</td>
<td>4.3</td>
</tr>
<tr>
<td>Death</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Discussion:
The Roux-En-Y (REY) procedure has gained the broadest acceptance as the method of choice for upper GIT reconstruction mainly due to its perceived ability to prevent bile reflux into stomach/ oesophagus. However, even longer segments of over 40cm of jejunal limb, as commonly practiced, is unable to completely prevent bile reflux induced gastro-oesophagitis¹. Investigations like cholangioscintigraphy, confirmed and documented a 40% incidence of the retrograde flow of jejunal contents in the Roux loop². In another study of 16 patients, with a mean roux limb length of 39.8 cm, who

![Fig.-7: Frequency of Roux Stasis Syndrome in the pre and post-operative periods](image1)

![Fig.-8: Average post-operative change in weight expressed as a percentage of the pre-operative weight](image2)

![Fig.-9: Average Visick Score in the preoperative and postoperative period.](image3)
underwent alimentary limb lengthening procedure for intractable bile reflux, responded favorably to limb lengthening to 100 cm³.

On the contrary, greater length of the Roux limb predisposes to the development of Roux stasis syndrome, a symptom complex, first coined by Mathias and colleagues followed by a Roux-en-Y bypass. The overall incidence of RSS is 30% as per international literature published.

Patho-physiology of RSS is variable. Experimental studies have accused a disrupted migratory motor complex (MMC) for the wrongdoing. One observational study of 187 patients following Roux en Y bypass with a mean alimentary length of 41 cm, documented a 26.2% incidence of RSS in their study group, concluded that construction of roux limb greater than 40 cm in length may increase the incidence of RSS.

The MURY reconstruction, pioneered by VanStiegman, showed its potential in preventing RSS as small bowel escapes transection and myo-neural continuity is maintained. Results of an experimental study on canine model to analyze the effects of UREY and standard REY procedure on intestinal motility and gastric emptying, confirmed that the UREY procedure preserved normal gastric emptying and prevented the development of Roux stasis syndrome. Another observational study of 15 patients underwent UREY gastrectomy with a 6 months follow-up period, showed excellent results with stable weight gain in 57% of patients. RSS developed in one patient (7.1%) in this time span. 36% of the study population, however, experienced pain with reflux biliary gastro-esophagitis from staple line disruption. They concluded that the UREY procedure prevents RSS but is associated with an unacceptably high incidence of staple failure.

In our series, based on clinical criteria, there was two (4.3%) incidences of RSS after 8 weeks of follow-up (p<0.001). Initially, the incidence of any of the four clinical post-prandial symptoms of RSS among the patients was recorded preoperatively. There were a lot of symptoms preoperatively among the 47 patients, with an average of 3.8±0.4 (mean±SD) symptoms per patients. At the time of final follow-up, only two (2) patients complained of post-prandial pain, with the average being, 0.1±0.2 (mean±SD) symptoms per patient after 8 weeks (Fig 7).

Furthermore, our study shows 0% incidence of bilious vomiting following the “Modified Uncut” technique in this follow-up period. This finding was universal, except in the early studies where there was a high incidence of staple line dehiscence. An extra layer of non-absorbable interrupted seromuscular sutures have been advocated to reinforce the staple line, hence called “Modified Uncut Roux-en-Y” (MUREY) procedure (Fig 3). We randomly carried out endoscopic evaluation in 9 patients within 56th week of follow-up which revealed no staple line dehiscence in any of the patients examined suggested the possibility that MUREY technique reduces the dehiscence of enterically closed portion.

Our study also showed a significant increase in the body weight after MUREY procedure. On average, preoperative body weight of our study population was 53.6 kg ±5.9 SD. The average increase of body weight at the final follow up was 6.7%±5.1 SD (Fig 8).

The outcome of surgery in patients’ perspective can be assessed by using quality of life (QoL) indicator. Based on questionnaires, various scoring systems have been developed. The Visick scoring system, in particular, correlates well to the heart burn and reflux related symptoms has been used to evaluate a patient appreciation of anti-reflux surgery (Fig 9).

Mon and Cullen reviewed a matched cohort of patients undergoing the Uncut and standard REY gastro-jejunostomy. Their cohort included cases of gastroparesis, gastric adenocarcinoma, bile reflux gastritis and peptic ulcer with gastric outlet obstruction. They compared the clinical results on Visick Grades and calculated the score. They found that patients undergoing UREY procedure showed significantly improved quality of life on Visick Grades in comparison with the standard Roux group, which showed little improvement. Their study also demonstrated that the UREY gastro-jejunostomy can be performed safely in patients who would traditionally undergo a standard Roux-en-Y reconstruction for a variety of disorders.

Our study showed a very significant decrease in the average Visick score postoperatively (p<0.001) testifies the improvement in the QoL. The average preoperative Visick Score was 3.5±0.6 (SD), which improved postoperatively to 1.2±0.4 (SD) after 8 weeks of follow up (Fig 9).
In general, the Roux limb of the REY reconstruction acts as a functional obstruction resulting from transaction of jejunum and separation of the Roux limb from the intestinal pacemaker located in the proximal duodenum. Ectopic, retrograde propagating pacemakers, therefore, develops in the jejunum, distal to the site of transaction, leading to entero-gastric reflux, delayed gastric emptying, malabsorption syndrome and overall deterioration of the quality of life.

In the Uncut technique, stomach is not exposed to the irritating effects of bile and pancreatic secretion, unlike classical loop gastro-jejunostomy, as the content of the afferent limb is diverted into the efferent limb through a Braun entero-enterostomy. Moreover, the flow of bilio-pancreatic juice is blocked off from reaching the stomach by using a single, double- row non-cutting GI stapler. Unlike REY, the lack of division of small bowel, as a part of making the Roux-Y loop, the UREY maintains myoneural continuity of the gut, alleviating the potential of developing RSS. In addition, reinforcement of the staple line by seromuscular stitches prevents staple line dehiscence and its consequent alkalinebilio- gastric reflux.

**Limitations:**
The weakness of our study is the small group of patients and short study period. The postoperative convalescence is affected by the form of surgery, laparoscopy or laparotomy; a variable which was ignored as both forms of the MUREY procedure were included in the study. Furthermore, patient’s convalescence in the early weeks following surgery, is significantly affected by adjuvant chemotherapy, a confounder which was not assessed independently in this study.

**Conclusion:**
The Modified Uncut Roux-en-Y technique is not only is a simple upper GI reconstructive procedure but equally effective in preventing alkaline reflux gastritis and the Roux Stasis Syndrome resulting in reduced convalescence, better nutritional outcome and overall improvement in the QoL. The technique of placing an additional layer of interrupted sutures over the occluding staple line also seems to have been effective in preventing staple line dehiscence, an important limiting factor of the original technique.

**References:**
Role of Naked Eye Single Tube Red Cell Osmotic Fragility Test (NESTROFT) in Detecting Beta-Thalassemia Trait

A FERDOUSIa, MAHMADB, JD SHARMAC, R SAMADD, AKMZ ULLAHF

Summary:
Thalassemia is one of the commonest inherited diseases in Bangladesh. The birth of a thalassemic child places considerable strain, not only on the affected child and its family but also on the community and the nation at large. To reduce the burden of the society and to reduce the disease incidence by providing genetic counseling, detection of carrier is important. The present study evaluates the role of ‘Naked Eye Single Tube Red Cell Osmotic Fragility Test’ (NESTROFT) in detecting ß-thalassemia trait.

The current study is a cross sectional study done during the period of September 2008 to August 2009. The study subjects were sibs, parents and relatives of thalassemia patients of age more than 1 year attending Pediatric department of Chittagong Medical College Hospital. Sample size was 50. Here subjects with lowered osmotic fragility test were detected and later on Hb- electrophoresis was done. All the data were recorded and analyzed by SPSS programme. The Sensitivity, Specificity and predictive value of positive and negative tests were computed and they were 92.6%, 80%, 92.6% and 80% respectively. False positive cases were found.

The present study found NESTROFT to be both sensitive and reasonably specific and of high negative predictive value. However, multicenter study with large sample is needed to recommend NESTROFT as a single screening test for detection of ß-thalassemia trait.

Role of Naked Eye Single Tube Red Cell Osmotic Fragility Test (NESTROFT) in Detecting Beta-Thalassemia Trait

A FERDOUSIa, MAHMADB, JD SHARMAC, R SAMADD, AKMZ ULLAHF

Introduction:
Thalassemia is the most common inherited gene disorder in the world and varies in different population groups in the world.¹ Thalassemia is more prevalent in the Mediterranean basin, the Middle East, Southern eastern Asia, the South China, with reported carrier rates ranging from 2% to 25%. Recent data indicate that about 300,000-500,000 children are born each year with the severe homozygous states of these diseases (World Bank 2006, report of a joint WHO-March of Time meeting 2006).

Thalassemia is one of the commonest inherited disease in Bangladesh². A conservative world report has estimated that 3 percent are carriers of beta-thalassemia and 4 percent are carriers of Hb-E in Bangladesh³. In Bangladesh, a study done on 735 school children the average prevalence of beta-thalassemia trait was 4.1% and Hb-E trait was 6.1% in Bengali school children. Among tribal school children in Chittagong, the average of beta-thalassemia trait was 4.2% and Hb-E trait was 41.7%4It is presumed that approximately six thousands thalassemic children are born each year in Bangladesh¹.

It’s treatment is very cumbersome and costly. The only cure available today is bone marrow transplantation, which is risky and too costly for most of the patient. The cost of treatment for one thalassemic child in our country also approximately 70,000 to 90,000 taka per year⁵. Being a poor country, majority of thalassemia patients do not get adequate treatment.

The birth of a thalassemic child places considerable stain, not only on the affected child, but also on the family, community and the nation at large. With these limitations, emphasis must shift from treatment to prevention of such births in near future. This can reduce the disease incidence; hence reduce the burden of the society.

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The birth of a thalassemic child places considerable stain, not only on the affected child, but also on the family, community and the nation at large. With these limitations, emphasis must shift from treatment to prevention of such births in near future. This can reduce the disease incidence; hence reduce the burden of the society.
The most effective approach is implementation of a carrier screening program offering genetic counseling, prenatal diagnosis and selective termination of affected fetus. Various screening parameters that are available include peripheral blood smear examination, red cell indices, osmotic fragility(quantitative), free red cell porphyrins, RBC count and RDW. All these test, including HbA\(_2\) estimation (confirmatory) test for beta thalassemia trait, are expensive, time consuming and require sophisticated equipment. The need, therefore is for a simple, low cost rapid and reliable test which can be used for mass screening. NESTROFT is such a test used for detection of beta-thalassemia trait.

Various studies have been carried out in the world, especially in the developing countries similar to India, Myanmar, Iraq, Thailand to see sensitivity and specificity of NESTROFT. This study has been undertaken to determine the validity of simple and inexpensive method, NESTROFT as a screening test for detection of heterozygous beta-thalassemia.

**Methodology:**

Study design: It is a descriptive cross sectional study.

Place of study: The study was carried out in pediatric department of Chittagong Medical College and Hospital.

Period of study: One year starting from September 2008.


Study population: Sibs, parents and relatives of thalassemia patients attending pediatric department of Chittagong Medical College Hospital.

Sample size determination: Sample size was determined on the basis of the following formula. 

\[ N = \frac{Z^2pq}{e^2} \]

Here, \( N = \)Sample size, \( Z^{2} = \)the value of standard variate at given confidence level, Usually at 1.96 which corresponds to 95% confidence limit. \( p = \)Estimated prevalence which will be 4.1%, \( q = 1-p \) that is 95.9% \( e = \)Acceptable error.

Thus, \( N = 37762 \)

According to this formula, the calculated sample size is 37762.

It became a big number for a single person to collect data and samples from the patients within the decided time frame. Moreover, resource constrain is also an important factor. I therefore collected as many as possible, which was 50 in number.

Sampling technique: Sample was selected by non-probability convenience sampling technique.

Research instrument: case record form.

**Inclusion criteria:**

Any one >1 year of age among sibs, parents and relatives of thalassemia patients.

**Exclusion criteria:**

1. Subjects suffering from Hb-electrophoresis proved thalassemia or any other severe illness.
2. Subjects with moderate to severe anaemia.
3. Blood transfusion within last 90 days.

**Results:**

During the study period 50 subjects were screened. Among them 27 subjects were \( ^{3} \)-thalassemia trait, 11 subjects were Hb-E trait, 10 were with normal hemoglobin and other 2 were Hb-E disease. Among the total 50 subjects, mild pallor was found in 9 subjects. Total NESTROFT positive cases were 30 and NESTROFT negative cases were 20 in number.

Among the total study subjects 28 (56%) were female and 22 (44%) were male. Female predominated in these series. Distribution of sex among the study subjects is shown in Table-I.

<table>
<thead>
<tr>
<th>Table-I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution of sex among the study subjects (n=50)</td>
</tr>
<tr>
<td>Sex</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Age ranged between 2 and 52 years with a mean age of 30.12±10.02. Age distribution of the series is described in Table-II.
Table-II

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>N</th>
<th>Mean ±SD</th>
<th>Median</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>30.12</td>
<td>10.02</td>
<td>30.50</td>
<td>252</td>
</tr>
</tbody>
</table>

Relation of study subjects with thalassemia patients was various. Among them no. of mother, father, brother, uncle, sister and aunt were respectively 22 (44%), 14 (28%), 4 (8%), 4 (8%), 3 (6%) and 3 (6%). Distribution of relation with thalassemia patients is shown in Bar Chart-01.

Fig.-1: Distribution of relations of study subjects with affected persons (n=50)

Among the 50 subjects carrier status of 5 persons (10%) were known from before. That is hemoglobin electrophoresis was done before they were included in the present study, which reflects awareness of the general population especially relatives of thalassemia patients regarding the carrier status of thalassemia. Carrier detection status of relatives of thalassemia patients is shown in Pie chart-01.

Distribution of pallor among the study subjects is described in Pie Chart -02. In the present, 9 subjects (18%) were mildly pale and 41 subjects (82%) were not pale.

Pie-chart-03 depicts that NESTROFT resultsamong the study subjects. It was positive in 60% of study subjects.

Fig.-2: Distribution of carrier detection status of study subjects.

Fig.-3: Distribution of pallor among the study subjects.

Fig.-4: Distribution of NESTROFT results among the study subjects.

Bar Chart-02 describe the 27 (54%), 2(4%), 11(22%) of study subjects were detected respectively as ²-thalassemia trait, Hb-E disease, Hb-E trait by Hb-electrophoresis, while 20% were normal.
Table-03 describes the distribution of normal and abnormal hemoglobin on Hb-electrophoresis among the total 50 subjects. Here, 80% patients were detected to have abnormal hemoglobin on Hb-Electrophoresis.

Table-III

Distribution of normal and abnormal hemoglobin on Hb-electrophoresis (n=50)

<table>
<thead>
<tr>
<th>Hb-Electrophoresis</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>10</td>
<td>20.0</td>
</tr>
<tr>
<td>Abnormal</td>
<td>40</td>
<td>80.0</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table-04 shows distribution of pallor by NESTROFT results with X² significance among the total 50 subjects. About 89% of the patients with mild pallor were detected NESTROFT positive, while among the subjects with normal hemoglobin about 54% were NESTROFT positive. Pearson’s Chi-square test was done to find out the association between pallor and NESTROFT results. However, just significant was found (P=0.05). Fisher’s Exact test was also just significant P=0.05.

Table-05 describes that 20% of subjects with normal hemoglobin and 70% of subjects with abnormal hemoglobin pattern were NESTROFT positive. Pearson’s Chi-square test was done to find out the association between abnormal hemoglobin pattern and NESTROFT result. Highly significant association was found (P<.01). Fisher’s Exact test was also significant P=0.006 (P=<.01).

Table-06 depicts the distribution of Hb-electrophoresis results by NESTROFT with X² significance (n=50). It shows that among the ²-thalassaemia traits, 92.6% were NESTROFT positive, while among the normal patients, only 20% were NESTROFT positive. Pearson’s Chi-square test done to find out the association between NESTROFT and Hb-Electrophoresis results. It was found to be statistically highly significant (P<0.001).

Table-07 describes the distribution of Hb-electrophoresis results by NESTROFT with X² significance (n=37)

Among 27 cases of beta-thalassemia trait, NESTROFT was found positive in 25 (92.6%) subjects and 2 (7.4%) cases were found NESTROFT negative; among 11 cases of Hb-E trait the test was found positive in 1 (9.1%) and was negative in 10 (90.9%) subjects; among 2 cases of Hb-E diseases all the subjects i.e. 100% were found NESTROFT positive; among 10 normal subjects 2 (20%) were found positive and 8 (80%) were found negative. Pearson’s Chi-square test was done to find out the association between NESTROFT and ²-thalassemia carrier. It was found to be statistically highly significant (P<.001). Fisher’s Exact test was also highly significant P=0.000 (P=<.01).
Table IV

Distribution of pallor by NESTROFT results with $X^2$ significance (n = 50)

<table>
<thead>
<tr>
<th>Pallor</th>
<th>NESTROFT Result</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>%</td>
</tr>
<tr>
<td>Mild</td>
<td>08</td>
<td>88.9</td>
</tr>
<tr>
<td>Absent</td>
<td>22</td>
<td>53.7</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>60.0</td>
</tr>
</tbody>
</table>

$X^2=3.817. df=1. P=0.051$. Just Significant

Table V

Distribution of normal and abnormal Hb-electrophoresis results by NESTROFT (n = 50)

<table>
<thead>
<tr>
<th>Hb-Electrophoresis</th>
<th>NESTROFT Result</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>%</td>
</tr>
<tr>
<td>Normal</td>
<td>02</td>
<td>20.0</td>
</tr>
<tr>
<td>Abnormal</td>
<td>28</td>
<td>70.0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>60.0</td>
</tr>
</tbody>
</table>

$X^2=8.333. df=1. P=0.004$. Highly Significant

Table VI

Distribution of Hb-electrophoresis results by NESTROFT with $X^2$ significance (n = 50)

<table>
<thead>
<tr>
<th>Hb-Electrophoresis</th>
<th>NESTROFT Result</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>%</td>
</tr>
<tr>
<td>Normal</td>
<td>02</td>
<td>20.0</td>
</tr>
<tr>
<td>B-thalassaemia trait</td>
<td>25</td>
<td>92.6</td>
</tr>
<tr>
<td>Hb E trait</td>
<td>01</td>
<td>9.1</td>
</tr>
<tr>
<td>Hb E disease</td>
<td>02</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>60.0</td>
</tr>
</tbody>
</table>

$X^2=31.829. df=3. P=0.000$. Highly Significant

Table VII

Distribution of Hb-electrophoresis results by NESTROFT with $X^2$ significance (n = 37)

<table>
<thead>
<tr>
<th>Hb-Electrophoresis</th>
<th>NESTROFT Result</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>%</td>
</tr>
<tr>
<td>Normal</td>
<td>02</td>
<td>20.0</td>
</tr>
<tr>
<td>B-thalassaemia trait</td>
<td>25</td>
<td>92.6</td>
</tr>
<tr>
<td>Total</td>
<td>27</td>
<td>73.0</td>
</tr>
</tbody>
</table>

$X^2=19.498. df=1. P=0.000$. Highly Significant.
Sensitivity, specificity, positive and negative predictive values of the test were calculated as validity statistics by the following formulae:

- **Sensitivity:** \(100 \times \frac{TP}{TP + FN}\)
- **Specificity:** \(100 \times \frac{TN}{TN + FP}\)
- **Positive predictive value:** \(100 \times \frac{TP}{TP + FP}\)
- **Negative predictive value:** \(100 \times \frac{TN}{TN + FN}\)

Here, \(TP\) = True positive i.e. have disease and have positive test.
\(FP\) = False positive i.e. no disease but have positive test.
\(TN\) = True negative i.e. no disease but have negative test.
\(FN\) = False negative i.e. have disease but have negative test.

In this study, sensitivity of NESTROFT was 92.6% and specificity was 80%. Positive predictive value of a positive test was 92.6% and predictive value of negative test was 80%.

**Discussion:**

Any programme for the prevention of Cooley’s anaemia requires, as a preliminary step, the reliable identification of young people with thalassemia. Screening for beta- thalassemia trait is extremely difficult. This is mainly because of the heterogeneity of beta- thalassemia variants. In spite of these difficulties, many attempts have been made to establish a screening test capable of detecting all beta-thalassemia variants. Various screening tests for carrier screening have been developed, viz. Determination of red cell indices, HbA, HbA² and HbF level estimation; however, all these techniques are time consuming and expensive for population screening.

In the present study, mean age was 30.12±10.02 years and female subjects predominated, they constitute 56%. Carrier status of 10% of study subjects was known from before. That is hemoglobin-electrophoresis was done before the persons were included in the present study, which reflects awareness of general population especially relatives of thalassemia regarding carrier of thalassemia.

In this study, 18% of study subjects were found mildly pale. Among them 2 were found normal on haemoglobin electrophoresis. They were not further investigated for detection of iron deficiency anaemia, as we know that iron deficient subjects may be NESTROFT positive. Among the rest of the pale subjects, there were 3 beta-thalassemia trait, 2 Hb-E trait and Hb-E disease.

From the result of this study it was shown that NESTROFT was successful in detecting 92.6% of subjects of beta- thalassemia trait. It was also shown that 100% of Hb-E disease was detected.

Table –08 shows the usefulness of NESTROFT in heterozygous beta- thalassaemia along with comparison of data with previous studies. The present study found the NESTROFT to be more sensitive though not as specific, which correlates with other studies. Table-08 compares the sensitivity, specificity, positive and negative predictive values of the NESTROFT in the present study with those of other similar studies. All the previous reports have shown a sensitivity that is above 91%, the specificity has varied from 64.2%-95%. The sensitivity reported in other studies (Table-08). The specificity in the present study was 80%, which is comparable to obtained by Mehta et al. and Singh et al. The negative predictive value of the test in carriers during the present study was 80%. The result is low but comparable with the study of Singh et al. Manglaniet al reported much lower value 35.5%. Kattamis et al., Mehta et al., Gorakshakar et al and
Sirichotiyakul et al, who reported negative predictive values of 98.3%, 97.0%, 99-100%, 98.3%, 96.5%, 99.0% and 99.5% respectively. Higher than 73.1% reported by Raghavan et al, 99.0% and 99.5% respectively.

In the present study, the test led to both high sensitivity and specificity; this is a desirable factor for judging the effectiveness of a test. Calculation of the negative predictive value in the test helps to rule out the possibility of beta-thalassemia trait in the general population. The application of this test for screening the cases before further investigations would reduce financial implications faced in performing other costly tests on the general population. The positive predictive value of the test has significance in a particular population with high prevalence of the disease. The positive predictive value was high (92.6%) and comparable to the studies conducted by Kattamis et al and Singh et al, who reported values of 91.3% and 95.5% respectively; higher than 73.1% reported by Mehta et al, 50% reported by Sirichotiyakul et al, and lower than 97.6% reported by Manglani et al. Although detection of the thalassemia trait using NESTROFT was successful in 92.6% of subjects with this trait. It also gave a false positive test in 20% of the normal individuals, which is quite comparable with 18.5% reported by Gomber et al. Although this test is easy to perform, fast, cheap and does not require sophisticated equipment, there are certain limitations of this test. As observed during the study, it gives false positive results in the case of patients with pallor. This would affect the specificity of the test in a population with high incidence of nutritional anaemia. Therefore, subjects positive with NESTROFT need to undergo further investigations to confirm the diagnosis. The test also needs careful standardization.

In this study NESTROFT showed high sensitivity and specificity, also high negative predictive value. NESTROFT has thus emerged as an inexpensive, most sensitive and specific test of population screening for the beta-thalassemia trait, and is considered suitable for large scale use in developing countries like Bangladesh which has limited financial and technical resources.

References:


Endotracheal Tube and Pro seal Laryngeal Mask Airway in Elderly Hypertensive Diabetic Patients Undergoing Routine Laparoscopic Surgical Procedures: A Comparison of Hemodynamic Parameters

MM RAHMAN\(^a\), MMH MUNIR\(^b\), K SARDAR\(^c\), AS KHAN\(^d\), AKMN CHOWDHURY\(^c\), MK RAHMAN\(^f\), SK MONDAL\(^g\)

Summary:
Background: The effects of ProSeal laryngeal mask airway (PLMA) removal and tracheal extubation on cardiovascular responses were studied in elderly hypertensive diabetic patients in a randomized double-blind study.

Methods: A total of 60 elderly controlled diabetic hypertensive American Society of Anesthesiologists II & III patients were randomly allocated to two groups (n-30 of each) for PLMA insertion or endotracheal intubation. A standardized anesthetic sequence was used for induction and maintenance of anesthesia. The two groups were then compared for haemodynamic changes at the time of extubation/PLMA removal.

Results: In PLMA group, heart rate increased during PLMA removal but remained elevated for only 3 minutes. The elevations of heart rate and mean arterial pressure were exaggerated in the extubation group and persisted for more than 5 minutes. No complication was observed in any patient and no difficulty was encountered in insertion of PLMA in any patient.

Conclusion: Elderly hypertensive diabetic patients are at risk of exaggerated pressor response at the time of extubation. PLMA removal is associated with fewer hemodynamic changes than tracheal extubation and should be preferred wherever possible.

Key word: Proseal laryngeal mask airway, laparoscopic surgery, hypertensive type-2 diabetic patient,

(J Bangladesh Coll Phys Surg 2018; 36: 153-158)
DOI: http://dx.doi.org/10.3329/jbcps.v36i4.38184

Introduction:
Diabetes mellitus is the most common endocrine abnormality encountered in surgical patients and is associated with increased perioperative morbidity and mortality mainly due to the complications of the disease.\(^1\)

Diabetic patients frequently have cardiovascular disorders such as hypertension, ischaemic heart disease and left ventricular dysfunction and very often associated with autonomic neuropathy which may aggravate during instrumentation of airway and anaesthesia.\(^1\) Therefore effective measures are to be sought to reduce these responses and minimize intraoperative hazards.

Till date, the cuffed tracheal tube was considered as the gold standard for providing a safe glottic seal, especially for laparoscopic procedures under general anesthesia.\(^2\) The disadvantages of tracheal intubation, which involves rigid laryngoscopy, are in terms of concomitant haemodynamic responses and damage to the oropharyngeal structures at insertion. Postoperative sore throat is also a serious concern. This precludes the global utility of the tracheal tube and requires a better alternative.\(^3\)

Tracheal extubation is usually performed with the patient in a lighter stage of anesthesia as compared to
intubation and thus produces a significant increase in heart rate and blood pressure.

These autonomic responses may be dangerous especially in geriatric hypertensive diabetic patients and may lead to myocardial ischemia, infarction, arrhythmias, and raised intraocular pressure (IOP). The elderly diabetic patients have a diminished physiological reserve, alterations in autonomic function, an increased risk of coexisting cardiac disease, and increased sensitivity to opioids and anesthetic drugs.

Therefore, an alteration of the anesthetic technique is preferable to pharmacological means to blunt the pressor response in this class of patients.

The classical laryngeal mask airway (CLMA) is preferred in such patients because insertion as well as removal of CLMA causes a transient rise of heart rate (HR), systolic blood pressure, and mean arterial pressure (MAP) similar to endotracheal intubation (ETT) in normotensive patients but of lesser severity and remains for a shorter period. Unfortunately, CLMA cannot be used in many situations, where it has been largely replaced by the ProSeal laryngeal mask airway (PLMA).

PLMA was introduced as an improvement over CLMA by Brain in 2000. It has a dorsal cuff that presses the ventral cuff more firmly into the periglottic tissues leading to a better seal and permits high airway pressures without leak. The drain tube parallel to the ventilation tube permits drainage of passively regurgitated gastric fluid away from the airway and serves as a passage for gastric tube. The PLMA is a relatively new airway device in developing nations. In spite of its popularity, no study so far has been done in elderly patients with diabetic and hypertension to compare the hemodynamic response using PLMA rather than a standard tracheal tube. With this background, the present study was undertaken to compare the circulatory responses to PLMA insertion/removal and tracheal intubation/extubation and evaluate the intraoperative and postoperative laryngopharyngeal morbidity (LPM) occurring during general anaesthesia in elderly hypertensive diabetic patients undergoing laparoscopic surgeries.

Methods:

This prospective, randomized study was carried out after approval of the hospital ethics committee. A total of 60 hypertensive diabetic American Society of Anesthesiologists II-III patients aged 55-75 years undergoing elective surgery were included in this study and were divided into the following groups: Group ETT, consisting of 30 hypertensive patients in whom ETT was performed; and Group PLMA, with 30 hypertensive patients in whom PLMA was used.

Only controlled hypertensive diabetic patients were included in this study. Patients with a history of angina, with electrocardiographic evidence of ischemic heart disease, with obesity, with chronic obstructive airway disease, with uncontrolled diabetes mellitus or with any other associated chronic medical problem were excluded from the study. All antihypertensive drugs were continued during the perioperative period, except angiotensin-converting-enzyme inhibitors, angiotensin receptor blockers, and diuretics. These drugs were withheld on the morning of surgery (in the case of angiotensin receptor blockers, 24 hours prior to surgery). All patients received tab. midazolam 7.5 mg tablet at bedtime the night before surgery. On the morning of the surgery, the patients received 40 mg omeprazole intravenously (IV), 60 minutes before surgery.

All patients were monitored for heart rate, blood pressure (systolic and mean), electrocardiography, and oxygen saturation.

Patients received IV Ringer’s lactate 5 mL/kg over 5-10 minutes before the induction of anesthesia.

Blood pressure (systolic and mean) and heart rate was recorded just before induction as baseline values. An injection of fentanyl 2 microgm/kg was given IV to the patient just before induction. Anesthesia was induced with IV propofol (1% solution) 2 mg/kg followed by IV atracuronium bromide 0.5 mg/kg to facilitate endotracheal intubation or PLMA insertion in a randomized manner with a coin flip. An appropriate sized PLMA or ETT was used. Water soluble jelly was applied to both PLMA and ETT. An introducer was used to insert PLMA. Recommended volumes of air injected into a pilot balloon of PLMA/ETT to achieve a seal.

Once tracheal intubation/PLMA insertion was completed, anesthesia was maintained with helothane 0.5-0.8 % and N₂O:O₂ (60:40). Ventilation was controlled manually and was adjusted to maintain at
35-45 mmHg. Top-ups of atracurium bromide with 25% of the original loading dose were administered every 20 minutes. At the end of surgery, N₂O and halothane were discontinued. Neuromuscular block was reversed by administration of a premixed combination of atropine and neostigmine. Before extubation or PLMA removal oropharyngeal secretions were sucked out. Patients were assessed for their ability to breathe spontaneously and open their eyes upon command. After extubation/PLMA removal, patients received 100% oxygen by facemask for 10 minutes.

Systolic arterial pressure (SBP), Diastolic arterial pressure (DBP) and mean arterial pressure (MAP) and heart rate were recorded at intervals of 5 minutes following induction until the end of surgery, at the time of extubation/PLMA removal, and then 1 minute, 2 minutes, 3 minutes, and 10 minutes after removal of ETT/PLMA.

The data are expressed as mean ± standard deviation. All analyses were performed using SPSS-17 software. The continuous data were statistically analyzed using two-sample independent t-test and paired t-test, and categorical data by Pearson’s Chi-square/Fisher’s exact test as appropriate. A p value <0.05 was considered to be statistically significant.

**Results:**
Sixty patients were entered into the study. There were no differences between the groups with respect to sex, weight, height, age, and antihypertensive use (Table 1). Baseline values of hemodynamic variables were comparable between the two groups. The majority of patients were taking angiotensin-converting-enzyme inhibitors (76%) followed by Calcium channel blockers (13%) as an antihypertensive.

Increase of heart rate was observed in both the groups but the rise of heart rate in the ETT group was significant at 1 minute, 2 minutes, 3 minutes, and 5 minutes post extubation as compared to PLMA removal. The difference was not significant at 10 minutes after ETT/PLMA removal (Table 2). MAP also increased significantly in the ETT group as compared to the PLMA group and the rise was also significant at 1 minute, 2 minutes, 3 minutes, 5 minutes, and 10 minutes after extubation as compared to PLMA removal (Table 3).

No patient in either group had any complication; PLMA insertion was successfully accomplished in all patients.

**Table-I**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>ETT (n=30)</th>
<th>PLMA (n=30)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (y)</td>
<td>65±5</td>
<td>66±6</td>
<td>0.331 NS</td>
</tr>
<tr>
<td>Sex ratio (F:M)</td>
<td>19:11</td>
<td>18:12</td>
<td>0.555 NS</td>
</tr>
<tr>
<td>Height (cm)</td>
<td>154 ± 6</td>
<td>155±8</td>
<td>0.127 NS</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>65±7</td>
<td>66±8</td>
<td>0.255 NS</td>
</tr>
<tr>
<td>Type of surgery</td>
<td>% of patients</td>
<td>% of patients</td>
<td></td>
</tr>
<tr>
<td>Lap cholecystectomy</td>
<td>82</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Lap appendicectomy</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Lap. adrinalectomy</td>
<td>08</td>
<td>06</td>
<td></td>
</tr>
<tr>
<td>Anti diabetic therapy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulin</td>
<td>67</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Oral Hypoglycemic Agent</td>
<td>33</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Antihypertensive drugs</td>
<td>% of patients</td>
<td>% of patients</td>
<td></td>
</tr>
<tr>
<td>b-blockers</td>
<td>12</td>
<td>09</td>
<td></td>
</tr>
<tr>
<td>ACE inhibitors</td>
<td>73</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>Calcium channel blockers</td>
<td>10</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>05</td>
<td>04</td>
<td></td>
</tr>
</tbody>
</table>

All values are expressed as mean ± standard deviation or % of patients; p < 0.05 was considered significant. ACE = angiotensin-converting enzyme; ETT = endotracheal tube group; PLMA = ProSeal laryngeal mask airway group.
Discussion:
Our results showed that patients in whom PLMA was used had an attenuated pressor response at the time of its removal as compared to patients in whom ETT was used. The observed tachycardia at the time of extubation/PLMA removal in the two groups revealed a significant difference between these two groups at 1 minute, 2 minutes, and 3 minutes of this study (Table 2).

Similarly, the changes in MAP were of lesser magnitude and of shorter duration in the PLMA group as compared to the ETT group (Tables 3) and these findings were consistently observed in all patients with hypertension. Hypertensive patients exhibit an exaggerated hemodynamic response to awakening and tracheal extubation compared to that seen in patients without hypertension.

Classical laryngeal mask airway (CLMA), designed by Brain in 1983, was found to be helpful in such patients as cardiovascular responses to its insertion as well as removal are minimal, which may be related to lack of direct laryngeal and tracheal stimulation, and lesser stimulation of the pharynx. The effectiveness of LMA in preventing the increase in heart rate, MAP and SAB, and DAP and thus increased myocardial oxygen demand in both normotensive and hypertensive patients has been shown by Fuji et al. Although these hemodynamic changes during extubation or LMA removal are short lived, they can be of dangerous consequences in geriatric patients.

Table-II

<table>
<thead>
<tr>
<th>Heart rate (beats/min)</th>
<th>ETT (n=30)</th>
<th>PLMA (n=30)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>89.56 ± 10.56</td>
<td>86.85 ± 10.09</td>
<td>0.314</td>
</tr>
<tr>
<td>During extubation/PLMA removal</td>
<td>102.03 ± 9.32</td>
<td>101.02 ± 16.76</td>
<td>0.774</td>
</tr>
<tr>
<td>Postextubation/PLMA removal at 1 min</td>
<td>133.96 ± 10.74</td>
<td>103.56 ± 15.98</td>
<td>0.023</td>
</tr>
<tr>
<td>Postextubation/PLMA removal at 2 min</td>
<td>129.77 ± 10.21</td>
<td>99.79 ± 14.32</td>
<td>0.032</td>
</tr>
<tr>
<td>Postextubation/PLMA removal at 3 min</td>
<td>125.98 ± 10.01</td>
<td>95.34 ± 15.02</td>
<td>0.012</td>
</tr>
<tr>
<td>Postextubation/PLMA removal at 5 min</td>
<td>114.21 ± 10.87</td>
<td>93.25 ± 12.24</td>
<td>0.024</td>
</tr>
<tr>
<td>Postextubation/PLMA removal at 10 min</td>
<td>92.67 ± 7.89</td>
<td>88.73 ± 10.11</td>
<td>0.094</td>
</tr>
</tbody>
</table>

All values are expressed as mean ± standard deviation; p < 0.05 indicates significance.

Table-III

<table>
<thead>
<tr>
<th>MAP (mmHg)</th>
<th>ETT (n=30)</th>
<th>PLMA (n=30)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>107.22 ± 4.87</td>
<td>105.31 ± 4.09</td>
<td>0.314</td>
</tr>
<tr>
<td>During extubation/PLMA removal</td>
<td>120.03 ± 5.32</td>
<td>108.02 ± 5.76</td>
<td>0.774</td>
</tr>
<tr>
<td>Postextubation/PLMA removal at 1 min</td>
<td>127.96 ± 4.74</td>
<td>113.56 ± 5.98</td>
<td>0.021</td>
</tr>
<tr>
<td>Postextubation/PLMA removal at 2 min</td>
<td>124.77 ± 4.67</td>
<td>109.79 ± 7.32</td>
<td>0.001</td>
</tr>
<tr>
<td>Postextubation/PLMA removal at 3 min</td>
<td>119.98 ± 5.01</td>
<td>105.34 ± 6.02</td>
<td>0.001</td>
</tr>
<tr>
<td>Postextubation/PLMA removal at 5 min</td>
<td>114.21 ± 6.87</td>
<td>105.25 ± 4.24</td>
<td>0.021</td>
</tr>
<tr>
<td>Postextubation/PLMA removal at 10 min</td>
<td>108.67 ± 4.89</td>
<td>105.73 ± 4.11</td>
<td>0.094</td>
</tr>
</tbody>
</table>

All values are expressed as mean ± standard deviation; p < 0.05 indicates significance.
especially those patients who have coexisting coronary artery disease, if HR > 130 and SBP > 160, or rate pressure product (systolic arterial pressure X heart rate) > 20,000 signifying increased myocardial oxygen demand. Therefore, the prevention of these hemodynamic changes during tracheal extubation is of particular clinical importance in patients with hypertension.\(^{13-16}\) Geriatric patients may be at a particular risk.

Cardiovascular complications of diabetes along with hypertension and ischemic heart disease are common in the elderly. In addition, decreased autoregulation and sympathetic tone and increased peripheral vascular resistance result in a decreased adaptability of the circulatory system to stress.\(^{17}\)

PLMA has become popular owing to its design, wherein the flat dorsal component of the cuff of PLMA is designed to press the ventral cuff more firmly into the periglottic tissues and a wedge shaped proximal component designed to plug gaps in the proximal pharynx. A better seal coupled with a drain tube extends the range of surgical procedures for which this type of LMA device can be used. In addition, it also allows positive pressure ventilation in patients with high airway pressures. Therefore, it can be used in patients undergoing laparoscopic surgery.\(^{18}\)

Elderly diabetic patients tend to have diminished physiological reserves, and alterations in autonomic function, and blunting pressor response by pharmacological means, such as opioids and anesthetic drugs is associated with adverse effects in this population.\(^{7,8}\)

Therefore, an alteration of anesthetic technique is preferable to pharmacological means to blunt pressor response in this class of patients.

Habib et al studied the effects of remifentanil and alfentanil on the cardiovascular responses to induction of anesthesia and tracheal intubation in the elderly. They came to the conclusion that, although both remifentanil and alfentanil attenuate the pressor response to laryngoscopy and intubation, the incidence of hypotension confirms that both drugs should be used with caution in elderly patients. They also concluded that the elderly are susceptible to marked fluctuations of arterial pressure and heart rate.\(^{7}\)

Splinter and Cervenko observed that in geriatric patients, the cardiovascular response to tracheal intubation was attenuated by fentanyl but with a marked incidence (35%) of hypotension.\(^{19}\)

A study by Harris et al\(^{8}\) also showed that elderly patients are highly sensitive to anesthetic drugs and that close titration of dosages of drugs is essential. Thus, an alteration of anesthetic technique is preferable to pharmacological means to blunt pressor response in this subset of patients.

**Conclusion:**

Although both endotracheal extubation and PLMA removal are associated with increased cardiovascular responses in hypertensive elderly patients, response with PLMA removal is of lesser severity and persists for a shorter period compared to endotracheal extubation.

Therefore, PLMA should be preferred in elderly hypertensive type-2 diabetic patients for laparoscopic surgery wherever possible.

**Limitation**

Limitation of our study was that did not use invasive blood pressure monitoring and advanced cardiac setup and also could not do plasma catecholamine levels, which is an objective means of measuring hemodynamic stress response due to lack of facility.

**References:**


Workplace-based Assessment: An Important Tool for Trainee Assessment

ABM JAMAL

Summary:
There has been a great concern that trainees are seldom observed, instructed, assessed and provide feedback during their training period. It is customary that most of the post graduate institute relies on end of assessment or so called single shot final assessment and pass or fail is the only outcome. Recent trends in medical education states on giving importance of formative assessment and in training assessment. As physicians become ever busier in their own clinical practice, being effective teachers becomes more challenging in the context of expanding clinical responsibilities and shrinking time for teaching. Trainers are often unaware of their role for the trainees. They often reluctant to assess the trainees due to lack of monitoring at faculty level. Now a day trainees are assessed mainly on non documented methods and not in a structured way. Moreover there is little if any feedback is being given to them. The modern medical education given emphasize on workplace-based assessment rather than end of assessment or final assessment.

Key words: workplace, assessment, Mini CEX, Portfolio, Direct Observed Procedural skill.

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Introduction:
Assessment is very important component of medical education, the effectiveness of which is frequently underevaluated and taken lightly. Teaching has traditionally been considered a means of imparting knowledge and assessment that of estimating how much has been learnt, in real sense recapitulate. The concept of assessment in clinical scenario further demands hand on training, therefore assessing in real scenario or near real scenario. 1 In most of the centers this kind of assessment is still means a way of end of the course assessment or end of training assessment. But assessment during training period is under utilized or not utilize at all. In modern medical education emphasis has been given more in favor of formative assessment than summative assessment. One kind of this summative assessment is in training assessment those must be documented, structured and with adequate feedback to the trainees. According to Bangladesh Medical and Dental Council, recognized additional degrees should be approved and endorsed by the council. There are no specific criteria for workplace based assessment as a recognized tool but it mix up with the criteria of clinical training 2. The clinical skills development is at the centre of medical training. The importance of good history and physical examination in making a correct diagnosis cannot be over emphasized. This is substantiated by studies that have reported that the correct diagnosis can be established in more than 75% of patients based on history and clinical examination alone in different clinical settings. The backbone of clinical skills lies in several soft skills such as communication skills, professionalism, and ethics- also referred to as non-cognitive component of clinical skills. It is this non-technical component of one’s abilities that determines how well a person uses his/her clinical skills in health care delivery. Therefore it is not only important to include a formal training for developing these soft skills along with the technical clinical skills in the medical curriculum but also an effective assessment plan for the same. These non-cognitive skills are not easily amenable to assessment by traditional assessment methods. There is some effort to assess these skills by methods that assess competence such as the OSCE but these remain confined to the examination situation and the results may not be generalized to the actual performance in real life3.
Traditional system of trainee assessment
Now days, in most of the centers trainees are assessed by direct observation by his own trainer during their job period by a non documented method. The trainer himself decides whether the performance of the trainee is adequate enough to pursue an independent practice after completion of the degree or not. The trainer is actually following his ancestor's attitudes, set criteria and values in such a case. Most of the times a trainer follow the set rules of the institute to whom the trainee will appear in the examination. This completion is usually certified by a single sheath of certification countersigned by the head of the institute.

Rationale
Formative and summative assessment are two important concepts, which direct the design of an assessment system. The decision to employ summative, formative or a combination of both forms of assessment will guide the instrument selection, the manner by which assessment is implemented, the amount of manpower needed, the score interpretation and the use of assessment result. Assessment can be conducted both in an artificial situation and in an authentic workplace situation. A combination of the two is perhaps most desirable. Assessment in examination situation provides students appropriate timely feedback, and stimuli to improve. When conducted in a workplace situation with observed feedback, assessment gives students practice in different clinical context in a non-threatening environment. Assessment methods would include consideration of the balance between formative and summative assessment, the number of examinations and other tests, the balance between different types of examinations( written and oral), the use of normative and criterion judgement, and the use of personal portfolio and log-books and mini clinical evaluation exercise (Mini CEX). It would also include systems to detect and prevent plagiarism.

Miller(1990) took forward thinking about assessment in the healthcare profession by identifying four levels of assessment: knows, knows how, shows how and does. Miller’s work focused attention on a largely unassessed level: what the doctor does in real-life settings. Rethans et al(2002) emphasized that scores awarded to general practitioners by simulated patients in an examination setting were significantly higher than the scores awarded for the same tasks in a real life setting. This and other studies have drawn attention to the need to assess what healthcare professionals do in practice. Traditional examinations cannot assess what the candidate ‘does’ in real life settings and a battery of new assessment tools is needed to assess performance: work based assessment.

a. Mini Clinical Evaluation Exercise (Mini CEX)
The Clinical examination exercise, or the Mini CEX, is a clinical examination, similar to the objective structured clinical examination. Unlike OSCE, it is done with a real patient, complaining of a real symptom such as dyspnoea, rather than a standardized patient. This is a work-based, in training assessment which involves rating the student on an activity which already occurs in current training and provides student with immediate feedback on his/her performance. The primary aim of the mini CEX is to provide feedback on clinical performance. The assessor should comment on areas of strength, areas where which could be improved upon and help the student to develop an action plans as to how a trainee improve these aspect of performance. In a Mini-CEX examinee is engaged in an authentic workplace based patient encounter. His exercise can be done at outpatient department, in an emergency observation ward, in a speciality clinic days, or even in busy ward settings. Students can be assessed on different clinical problems that they encounter from within the curriculum in a range of clinical settings. The students are assigned assessors for each assessment who observes the student, assesses the

![Fig.-1: Framework for clinical assessment. Miller’s Pyramid.](image-url)
Workplace-based Assessment: An Important Tool for Trainee Assessment

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competency and then gives constructive feedback. The encounter usually lasts about 15-20 minutes and the encounter spends 5 minutes giving the examinee feedback. In Canada, The Mini CEX is replaced by Clinical encounter cards (CEC). The basic purpose of this assessment is strategy is also to score trainee performance based on direct observation of a patient encounter. The encounter card system scores the following dimensions of observed clinical practice: history taking, physical examination, professional behavior, technical skill, case presentation, problem formulation (diagnosis) and problem solving (therapy). In addition to capturing the quality of the performance, 4X6 inch score cards also provide space for assessors to record the feedback given to the trainee at the end of the encounter.

The Mini-CEX was developed for use in a postgraduate setting but it has been used also in undergraduate education. In this situation the duration of the encounter is often increased from 20 to 30 minutes.

b. Case based discussion

The case based discussion is mainly runs in the training program of United Kingdom and Australia is a structured interview in which practitioners discuss aspects of a case in which they have been involved in order to explore their underlying reasoning, decision making and ethical understanding. Actually it is an extended form of Mini CEX. It can be used in a variety of settings such as clinics, wards, OPD settings, follow up clinics or at assessment areas. Mainly it is directed to the trainee, who select the case for his better understanding and improves his judgement capability of patient management. The trainee himself selects difficult cases from various subsets and present the case to the particular assessor for about 15-20 minutes for presentation and another 10 minutes will allow for discussion and crossing. Sequential and varied case has to be select to ensure the coverage of all spectrum of the disease process. A comparison with different assessment methods has shown that assessment carried out using the case based discussion is able to differentiate between doctors in good standing and those identified as poorly performing. The basic difference between Mini-CEX and case based discussion is that trainee takes the whole responsibility of the process and decide time, frame and faculty. But the format for the assessment is predetermined.

c. Direct Observation of Procedural Skills (DOPS)

The direct observation of procedural skills (DOPS) can be used to assess a student/trainees performance and provide feedback during a range of procedures which they will encounter, such as closure of a cut wound of the thigh, performing a lumber puncture of a child, or repair of an episiotomy wound. The procedural skills assessed using DOPS range from relatively simple and common procedures, such as venepuncture, to more advanced surgical skills/intervention skills such as endoscopic retrograde cholangiopancreatography. The assessment by an experienced doctor is carried out using either checklist of defined tasks, a global rating scale, or a combination of both. Although Direct Observation of procedural skills is similar to procedural skills documented in log books, the purpose and nature of these methods differ significantly. The recording of procedures is common to both of them, but log books are usually designed to ensure that trainees have simply performed the minimum number required to be considered competent. The provision of structured feedback based on observation of a performance is not necessarily part of the log book process. Moreover, the procedure is not necessarily based on competency to be assessed in procedural skills involves more than just dexterity. Darzi suggest that in addition to manual dexterity a surgeon needs judgement and a sound knowledge base. Other important skills include getting consent from the patient and communication skills. Checklists and rating scales contain items which reflect the necessity of competency in these domains also. Commentators are generally positive about the educational value of DOPS. The feature of DOPS which is most commonly cited as being responsible for its high educational value is the opportunity it creates from more experienced doctors.

d. Diaries or logbooks

Diaries kept by trainees may provide useful insights into trainee achievements and other qualitative information. Logbooks can indicate the accomplishment of a list of tasks. Logbooks can record a trainees day to day activities at workplace settings and also academic activities he attained or achieved. If maintained properly, diaries and logbook provide a comprehensive account of what the trainee has done. The logbook demonstrates the scope of the trainee’s
activities, while the diary may additionally demonstrate progression of learning. Logbooks provide a clear setting of learning objectives and give trainers and clinical teachers a quick overview of the requirements of training and an idea of the learning progress. Logbooks facilitate communication between the trainee and the clinical teacher. They help to structure and standardize learning in clinical settings especially when multiple sites are involved. Standardization of logbooks in clinical training can increase the number of performed procedures. The analysis of logbooks can reveal weak points of training and can evaluate whether trainees have fulfilled the minimum requirements of training. In practice, however, the use of logbooks is often deficient. Some studies have shown that logbooks do not improve clinical training and are not used for learning. Sometimes clinical staff members are not aware of the existence of the logbook. Logbooks may be used inconsistently. Documentation do not always show achieved objectives and gaps. Documentation can be faked by just collecting signatures without performing the learning objectives. Still there are scope more improvements and researcher suggests some tips to implement logbook in a better way.

e. Portfolios

A portfolio is a collection of student work, which provides evidence of the achievement of knowledge, skills, attitudes, understanding and professional growth through a process of self reflection over a period of time. When portfolios were originally introduced in education as instruments for authentic assessment, they closely resembled the portfolios of architects and artists, which has been described as a portable case of keeping, usually without folding, loose sheets of papers, drawings or photographs. Portfolios have been used for several decades to assess students, for example in the fine arts where material such as artwork produced by students is an important as written material. The crucial difference between a logbook is student reflection. Reflection is the purposive, deliberate revising of an experience, to explore and extract the learning offered by the experience. Reflection can promote learning, personal and professional development and improvement of practice. Uses of portfolios has a clear links between assessment and learning, attempts to assess students areas such as attitudes, personal attributes and professionalism that are difficult to assess by traditional methods. Portfolios are increasingly being used as tools for assessment. Portfolios has got an immense ability to provide the documentation that a trainee keeps throughout his training period. A trainer can anytime assess the progress of the training and also the outcome he achieves.

A framework is necessary to ensure that the portfolio contains appropriate evidence of student achievement of the learning outcomes that are to be assessed. The framework should be flexible to allow inclusion of material selected by the individual student.

In a broader sense portfolios are being used to contribute to the development of individual teachers

### Box: 2

Twelve tips for successfully implementing logbooks in clinical training

1. Use all resources you can obtain and do not repeat work that has already been done
2. Involve all stakeholders and embed the introduction of logbooks into a change management process
3. Keep it short, simple and precise
4. Mind legal issues
5. Use a handy logbook formal
6. Make the logbook an integral part of the curriculum
7. Mentor and supervise learning objectives
8. Provide time and space for teaching and learning
9. Establish an easy going workflow
10. Implement an evaluation cycle to optimize logbook-location-fit
11. Inform staff and trainees
12. Train supervising physicians and mentors
and to the improvement of the teaching profession as a whole. When constructing a portfolio, teachers are encouraged to determine their own learning process and their professional development. Various aspects of teacher functioning can be incorporated in the portfolio assignment. These are: a) environment b) behavior of performance c) competencies d) professional identity e) mission. The teachers themselves complete the portfolio assignment where they describe critical incidents in their development as a teacher, set learning goals, select teaching activities, compose a profile of good teacher, idea about student and student’s learning, role of teacher and future plan for improvement.

Portfolio can also stimulate reflection, because collecting and selecting work samples, evaluations and other type materials that are illustrative of the work done, compels learners to look back on what they have done and analyze what they have and have not yet accomplished.

Research shows that the role of the mentor is crucial to the successful use of portfolios aimed at learning from experience. Reflection is an important concept in this framework, which relates to changing cognitive structures. Research has shown that meta-cognitive skills, such as reflection, increase the degree to which learners transfer what they have learned to new settings and events. Educational innovations involving the use of portfolios usually imply a transfer from teacher-directed education with a strong focus on conveying knowledge, to education in which the development of students competency in the workplace is emphasized. In most cases, teachers are expected to invest more time and effort in coaching and assessment than they were used to almost inevitably, this change in roles and cause uncertainty and evoke resistance. Not only does it imply that teachers need to rethink key ideas, practices and values, but for many teachers it also means that they need to invest in developing new competencies for coaching and assessment.

f. Multisource feedback (MSF)

More commonly known as 360-degree assessment, this method represents a systematic collection of performance data and feedback for an individual trainee, using structured questionnaires completed by a number of stakeholders. The assessment are all based on directly observed behavior but they differ from the methods presented above in that they reflect routine performance, rather than performance during a specific patient encounter. Although there are a number of different ways of conducting this form of assessment, the mini assessment tool (mini PAT) that has been selected for use in the Foundation Programme in the UK is a good example. Trainees nominate assessor including senior consultant, junior specialists, nurses and allied health service professionals. Each of the nominated assessor receives a structured questionnaire which is completed and returned to a central location for processing. Trainees also complete self-assessments, using the same questionnaires, and submit these for processing. The categories of assessment include: good clinical care, maintain good clinical practice, teaching and training, relationship with patients, working with colleagues and an overall assessment. The questionnaires are collated and individual feedback is prepared for trainees. Data are provided in a graphic form which depicts the mean ratings of the assessors and the rational mean ratings of assessor and the national mean ratings. All comments are included verbatim, but they remain anonymous. Trainees review this feedback with their supervisor and together work on developing an action plan. This process is repeated twice yearly during the training period.

Providing Feedback

In the clinical environment it is vital to provide feedback to students/trainees as without providing adequate feedback their strengths can not be reinforced nor can their errors be corrected. It is a crucial step in the acquisition of clinical skills, but clinical teachers either omit to give feedback altogether or the quality of their feedback does not enlighten the trainees of their strengths and weakness. The strength of Workplace based assessment lies in its direct observation and provision of effective-immediate feedback. The crucial factors that determine the effectiveness include the timing of feedback, environment of the settings, the method of giving feedback, the focus of feedback being on alterable behaviors, keeping confidentiality at every level and development of mutual trust. The assessor compares the trainee performance to standard (if possible) or expected norms based on own professional judgment. Various methods have been
described for providing effective feedback. The simplest of these is the “sandwich method” wherein criticism is delivered between layers of praise. Pendleton’s framework is another common model in use. It requires the trainee to first state as to what went well followed by what could have been done better to improve the performance. Then the assessor provides the suggestions. This is sometimes criticized on account of being too rigid and more flexible modifications have been developed by educationists.

One of the biggest hurdles to giving feedback is lack of direct observation of trainees by teachers. Clinical competence cannot be assessed by written examination, self report or third party observation, rather this needs to be observed directly by clinical teachers. Teachers are also very hesitant to provide negative feedback and frequently avoid it altogether although this can have adverse consequences on patient care. Trainees, on the other hand, may accept negative feedback as a personal attack. Teachers need to establish a positive learning environment in which errors are acknowledged and feedback is expected and accepted. Frequently, feedback is non-specific and unhelpful to learners, e.g. ‘good job’, “ bad patient communication” etc19.

Faculty training
The necessity of faculty members to hold specific skills and abilities with regard to technology has reached our institutions of higher education. All the faculty members including the junior trainers should undergo a formal training program at the own institute and also at central level. They should have also an orientation program on web site development, digital media, file structures, use LAN technology and file transferring. Course instructors should also be oriented by medical educationist so that effective training is to be ensured20,21.

Faculty development
There is a need to increase the frequency of observation of trainee performance in order to provide feedback aimed of improving the quality of the services they later render in clinical practice. To this end a number strategies have recently been implemented, but the studies of their efficacy are limited in number and they report variable success. Holmboe and colleagues examined the impact of a scoring sheet specifically designed to remind faculty both of the dimensions of feedback and that its main purpose is to provide trainees with information about their performance aimed at improving it. Usually trainees are informed about the introduction at a meeting held at the beginning of the training program of the faculty. Faculty members are allowed to run a trial training program and masters trainer’s train them observably. Now it is clear that a number of strategies need to be employed to successfully implement an assessment process in which trainees receive feedback based on directly observed performance in the workplace. It is important that involvement of faculty in planning an in-course formative assessment strategy is likely to enhance their engagement in the process. Faculty need to be thoroughly briefed about the purpose and process of the observation and feedback strategy implemented. Students need to be properly informed about the purpose and format of the assessment method used. In particular it is critical that the potential learning benefits of the system are emphasized rather than the assessment aspects of the methods being used. Finally, faculty and students need to be regularly reminded of the benefits of formative assessment and the importance of keeping the assessment strategy active in the workplace22.

Limitations of workshop-based assessment23
- In general, the current evidence suggest that WPBA is not sufficiently reliable to stand alone and that it should be used together with endpoint high stakes ‘knows how’ and ‘shows how’ assessment by learning.
- It is important to avoid the danger that assessment in workplace is seen as simply opportunities. They need to be appropriately utilized by trainees and trainer/ assessor through dialogue and properly structured bearing plans.
- Low scores tend to be seen as failure by trainees rather than assessment for learning opportunities. We need to emphasize to both trainees and assessors that less than perfect scores should against the endpoint of that stage of training. Most WPBA forms are designed to assess against the endpoint of a particular stage of training, so it is essential that standard is explicit and clearly understand by trainee and assessor.
• Trainees and assessor must have a good understanding of the criteria against which judgement are being made; otherwise they might be less likely to make hard decisions in relation to the trainees future, assuming that others further down the line will make the more difficult decisions. Making negative judgement is culturally difficult for trainers unless support is in place for them as well as trainers. As we will indicate, making such judgement is made easier if agreed behavioral descriptions are available on which to analyze them. These descriptions need to be transparent to both trainees and assessors.

Conclusion:
Teachers are more likely to support and invest in educational changes if they acknowledge and subscribe to the educational value of the new learning approach, internalize and support the innovation, and are empowered to assume ownership of it. In curricula with a strong focus on the development and assessment of competencies a portfolio can be a valuable instrument. They have the potential to make learning visible on the Does level of Miller’s pyramid, which describes independent performance in the workplace. It require a new perspective on education from mentors and learners, many of whom are used to teacher-directed learning with a strong emphasis on the acquisition of knowledge, it also asks teachers and learners for significant investment of time and energy. The successful introduction of a portfolio in education also depends on how much time and energy learners are willing to invest in their portfolios.

We conclude the guide for using portfolios for assessment and learning by referring to Spandel 25(1997) once more, who wrote” introducing portfolios are like buying shoes: the best choice depends on purpose and a really good fit happens over time, with lots of use and the right give and take by his user”.

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Poland Syndrome- A Rare Congenital Condition

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Summary:
Named after Sir Alfred Poland, Poland syndrome is a rare congenital anomaly classically characterized by the absence of unilateral chest wall muscles and sometimes ipsilateral symbrachydactyly (abnormally short and webbed fingers). The aetiology is probably a vascular disruption sequence of the subclavian arteries. In most cases, Poland Syndrome is sporadic. We report a 26 year old male patient with typical features of Poland Syndrome associated with bronchiectasis and mitral valve prolapse-a very rare association. To the best of our knowledge, this is the first documented case of a Poland Syndrome with rare association reported from Bangladesh.

Key words: Poland Syndrome, symbrachydactyly.

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CASE REPORTS

Poland Syndrome- A Rare Congenital Condition

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Introduction:
Poland’s Syndrome is a rare congenital condition. It was first described in 1841 by Sir Alfred Poland as a syndrome presenting with absence or under development of pectoralis major muscle, associated in some cases with a hypoplasia of the breast, an agenesis of 2,3, 4 and 5 ipsilateral costal cartilage, an athelia, and an ipsilateral webbing of the fingers (cutaneous syndactyly).\(^1,2\)

Because Poland syndrome is underreported and infrequently diagnosed, the exact incidence is difficult to determine. The current incident estimates range between 1:7,000 and 1:100,000 births, with higher frequency among males (ratio, 2:1 – 3:1). In 75% of the cases, it is located on the right hemithorax in the unilateral form.\(^3,4,5,6\)

Although several theories have been advanced to explain the etiology of Poland syndrome, most evidence indicates that it results from a vascular developmental anomaly during the critical sixth week of gestation, with hypoplasia of the subclavian artery causing musculoskeletal malformations.\(^7\)

Predominant clinical feature of Poland syndrome\(^8\):
- Absent sternocostal head of pectoralis major
- Absent pectoralis minor
- Hypoplasia of latissimus dorsi, serratus anterior, external oblique & intercostal muscles, infra and supraspinatus, deltoid
- Hypoplasia or absence of nipple & breast
- Bony dysostoses affecting hand (brachymesophalagly with syndactyly, biphalangy, ectrodactyly), wrist, forearm, upper arm, scapula
- Axillary webs & absence of axillary hair; minimal subcutaneous fat, if any
- Soft tissue syndactyly
- Scoliosis
- Hypoplasia of hemithorax or ribs

In most cases, the abnormalities in the chest area do not cause health problems or affect movement.

We are reporting a 26 year old male patient with typical skeletal deformities of Poland syndrome, associated with bronchiectasis & mitral valve prolapse-a very rare association. This paper is aimed at bringing awareness

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to health professional of Bangladesh of this rare congenital condition.

**Case report:**
A 26 year old young unmarried male presented to us with the complaints of high grade fever, productive cough with purulent foul smelling sputum and exertional respiratory distress for last 10 days. He gave history of frequent attacks of similar problem for last 7-8 years.

On query, he admitted that, he had been suffering from some skeletal deformity since his childhood. As this deformity did not cause any health problem, he never consulted any physician for this. There was no family history of similar disorder. No history of consanguinity of marriage between his parents.

Examination revealed, his chest was asymmetric with flattening of anterior chest wall of right side. The pectoralis major muscle was absent. (Fig- 01) The movements of right shoulder were possible. The fingers of right hand were short and webbed (symbrrachydactyly) .He had deformed right foot also with only 3 fused fingers (Fig-02). The left side of his body had normal configuration.

Examination of respiratory system revealed presence of bilateral coarse crepitations. Cardiovascular system examination revealed forceful apex beat in left 5th intercostal space, loud pulmonary component of second heart sound & presence of faint systolic murmurs in tricuspid and mitral area. Alimentary system & nervous system examination revealed normal findings including normal intelligence.

Important Investigations revealed,
- CBC- Neutrophilic leucocytosis, normal haemoglobin & platelet count
- Renal function test, liver function test, blood sugar- normal
- CXR P/A view- bilateral extensive cystic bronchiectasis with minimal pleural effusion (Fig-03)
- X-ray right hand- Distal & middle phalanges of index, middle, ring & little finger and distal phalanx of thumb is hypoplastic. Joint spaces are reduced with bony ankylosis between distal & middle phalanges of index, ring & little finger- ? congenital defect (Fig- 04)
- X-ray right foot – Foot is deformed. Hypoplastic 1st metatarsal & aplasia of phalanges of great & 2nd toe is noted. Hypoplasia of distal phalanx of 2nd & 3rd toe is noted.(Fig-05)
- USG of whole abdomen- Normal study
- Colour Doppler Echocardiography- Mitral valve prolapse with Tricuspid regurgitation & moderate pulmonary hypertension. Left ventricular function -normal.
On the basis of physical findings & radiological evidence- a diagnosis of Poland syndrome was made. Along with this congenital anomaly, the patient had bilateral bronchiectasis with secondary infection with mitral valve prolapse & pulmonary hypertension. He was treated conservatively & his respiratory symptoms were improved. No surgical treatment was offered.

**Discussion:**

Our patient presented to us with the features of lower respiratory tract infection on the background of longstanding bronchiectasis & some skeletal deformity since childhood which was undiagnosed upto this 26 years of age. It proves that, as there was no functional impairment, this patient from poor socio-economic background did not bother about the cosmetic disfigurement. Presence of typical clinical features of Poland syndrome involving the right side of his chest & right upper & lower limb lead us to the diagnosis of Poland syndrome which was associated with bilateral bronchiectasis & mitral valve prolapse. Literature review did not show any known association among these three diagnoses. So, probably, to the best of our knowledge, this is the first such case with rare association.

The exact etiology of the Poland syndrome is unknown. It is assumed that the aplasia of the pectoralis muscles and associated chest defects, are consequences of an interruption of early embryonic blood supply of subclavicular artery branches\(^5,6\). A combination of the blockage of various branches could lead to different manifestations of the Poland syndrome.

Geneticists currently hold the view that Poland syndrome is rarely inherited and generally is a sporadic event. There are rare instances where more than one individual has been identified with Poland syndrome either in the immediate\(^6,9,10\) or extended family\(^11\). Therefore, some authors believe that an inherited abnormal vasculature formation may be the central underlying mechanism for this condition.

Several reconstructive procedures are available to correct the functional and structural deformities associated with this syndrome. As for the chest deformity, customized silicone prosthesis is simply and safely used. Transposition of the latissimus dorsi muscle for soft-tissue reconstruction has been used by many authors with satisfactory esthetic and functional results\(^12\).

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**Fig-3:** CXR P/A view- bilateral extensive cystic bronchiectasis.

**Fig-04:** X-ray right hand

**Fig-05:** X-ray right foot
References:
Adolescent Girls with Pure Gonadal Dysgenesis: A Rare Disease

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Summary:
Gonadal dysgenesis is a rare cause of primary amenorrhoea, which is a relatively common problem among teenage girls. Primary amenorrhoea occurs in patients with gonadal dysgenesis because of absence or limited ovarian function due to inappropriate development. Streak gonads are unable to produce estrogens and/or androgens, resulting in minimal to no development of secondary sexual characteristics. Adrenal androgens may induce production of pubic hair, but patient will have minimal breast development. These patients may have a family history of infertility, short stature, sensorineural deafness, ataxia, mild mental retardation or gonadoblastoma.

Here two cases of primary amenorrhoea due to pure gonadal dysgenesis are presented. 1\textsuperscript{st} one was a 18yr old girl whose mother consulted with a gynaecologist at the age of 16yr because of her worries about absence of menarche of her daughter and secondone was a 14yr old girl whose mother consulted with a gynaecologist at the age of 16yr because of absence of secondary sexual characteristics as well as menarche of her daughter.

In both cases, blood test showed very high levels of follicle stimulating hormone (FSH) & luteinizing hormone (LH), low levels of oestradiol & very low level of AMH. USG findings of both cases showed a bit hypoplastic uterus and volume of ovaries were smaller than normal. A diagnostic laparoscopy with biopsy of both gonads of one case was performed. Another case did not give consent for laparoscopy. Hormonal replacement therapy was applied on them for establishment of normal menstruation and menstruation was established in both cases.

An early diagnosis is extremely important to prevent long term consequences of Gonadal dysgenesis.

Key word: Primary Amenorrhoea, Gonadal dysgenesis.

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Introduction:
Gonadal dysgenesis may be defined as any congenital developmental disorder of the reproductive system\textsuperscript{5} characterized by a progressive loss of germ cells on the developing gonads of an embryo.\textsuperscript{6} This loss leads to extremely hypoplastic (underdeveloped) and dysfunctioning gonads mainly composed of fibrous tissue, hence the name streak gonads. Gonadal dysgenesis is frequently associated with whole or partial deletion of the X chromosome. Thus, Turner syndrome (45, XO) is responsible for 50% of gonadal dysgenesis, mosaics (46,XY/45,XO) represent 25% of cases, Pure gonadal dysgenesis (46 XX) and Swyer syndrome (46XY) the other 25%.\textsuperscript{7}

Gonadal dysgenesis without the phenotype of Turner syndrome is described as ‘Pure’. Pure Gonadal dysgenesis is characterized by female external phenotype and internal duct structure. It is often presented with primary amenorrhoea with or without normal secondary sex characteristics such as breast development.\textsuperscript{8} With non functional streak ovaries, patient has low estrogen levels (hypoestrogenic) and has high levels of FSH and LH. Estrogen and progesterone therapy is usually then commenced.\textsuperscript{4} This is autosomal recessive trait, so genetic counseling is warranted. The gonads usually do not carry risk of malignant degeneration.

A normal menstrual cycle requires a complex interaction between the ovary, pituitary gland, hypothalamus axis and the genitalia. Any alteration in such interaction could cause amenorrhoea.

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Primary amenorrhoea is diagnosed in women with normal secondary sexual characteristics but who have not menstruated by age of 16 years\textsuperscript{1,2} or without normal secondary sexual characteristics as well as non establishment of menarche by age of 14 years. Secondary amenorrhoea is the absence of menses for 3 months in women with previously normal menstruation and for 9 months in women with previous oligomenorrhoea. According to previous investigations, secondary amenorrhoea is more common than primary type but a very rare presentation of gonadal dysgenesis.\textsuperscript{3,4}

In this paper, we present two teenage girls who failed to start menarche. We analyze the diagnostic process and discuss the causes and treatment for this medical condition.

Case-1:
A 18 years old girl was consulted with her doctor for a typical case of primary amenorrhoea. Regarding family history her mother had menarche at 11 years of age.

The patient’s personal medical record did not include any serious illness, and secondary sexual characteristics developed by age of 12. She didn’t present signs of hearing loss or deafness.

A physical examination revealed the following data: 1.4 m height, 52 kg weight and body mass index (BMI) 22.97 Kg/m\(^2\). She presented with normal axillary and pubic hair development and a small mammary development. Her external genitalias were normal and her clitoris was of normal size.

Investigations:
Two different blood analyses showed a normal haemogram and biochemistry, elevated levels of follicle stimulating hormone (FSH) and luteinizing hormone (LH) and low levels of oestradiol.

In October 2013 values were:
FSH – 106.71 mU/ml, LH – 38.69mU/ml, oestrogen level – 33.2 pg/ml and thyroid stimulating hormone (TSH) – 2.92 µU/ml. Prolactin level was 13.1 ng/ml, Anti mullerian hormone (AMH) – 0.02 ng/ml which is very low.

In November 2015 values were:
FSH – 78 mU/ml, LH – 42.63mU/ml, oestrogen level – 16.38 pg/ml

Prolactin level was 19.9 ng/ml, Serum cortisol – 136.0 ng/ml (normal range). Abdominal ultrasound (12.09.2013) revealed uterus smaller than normal size with thin endometrium. Both ovarian volume are smaller than normal with very few follicles. (volume of right ovary was 2.5cc & left was 3.5cc).

Her peripheral blood karyotype was done on 28.10.13 showing normal karyotype (46 XX) which eliminated any possibility of mosaics. (Picture of Karyogram attached)

An x-ray of the carpus was taken for determining her bone age, which was in agreement with her chronological age.

A diagnostic laparoscopy was performed with the following results: Hypoplastic uterus with normal fallopian tubes; small size ovaries with smooth surfaces and lack of ovulatory stigmas. A biopsy of both gonads was performed.

The pathological report showed a thinned cortex in both ovaries with a fibrous looking stroma. The number of primary follicles was very low for the patient’s age, with a total absence of corpus luteum. The morphological findings were compatible with a gonadal dysgenesis.

Case-2:
A 15 years old girl was consulted with her gynaecologist for non establishment of menstruation. Regarding family history her mother had menarche at 12 years of age.

Other siblings of her had no history of primary amenorrhoea or delayed puberty and had normal stature with other secondary sexual characteristics.
She had no significant previous medical or surgical history up to age of 15 years. She didn’t present any sign of hearing loss or deafness or any visual disturbance. On physical exam: Height – 1.2m, weight – 40kg and a BMI -23.15 Kg/m². She presented with incomplete axillary & pubic hair development and a little bit small mammary development. Her external genitalias were normal & her clitoris was of normal size.

Investigations: Her blood analyses also showed the same findings like first case - elevated levels of follicle stimulating hormone (FSH) and luteinizing hormone (LH) and low levels of oestradiol.

In December 2013 values are: FSH – 86.70 mIU/ml, LH – 30.20 mIU/ml, oestradiol level – 2.72 pg/ml.

In January 2016 values are: FSH – 72.20 mIU/ml, LH – 35.20 mIU/ml, Serum Prolactin level was 26.30 ng/ml, TSH – 1.44 UIU/ml, AMH <0.01 ng/ml

An abdominal ultrasound (14.12.13) revealed a small structure about 2.2 × 1.5 × 0.8 cm simulating a uterus behind the urinary bladder. Ovaries could not be visualized.

Repeat USG of abdominal organs done on 03.01.16 showed small size uterus (40 × 8 mm) than normal. Both ovaries are also small in size (right - 11 × 8 mm & left – 11 × 7 mm).

Her peripheral blood karyotype was done on 24.12.13 revealed normal karyotype (46 XX) which eliminated any possibility of mosaicism. (Picture attached)

Her x-ray of hands was done to determine bone age which was corresponded with her chronological age. As AMH gives an authentic picture of ovarian reserve of follicles, it can be a substitute for ovarian biopsy, if the patient do not want to have it. In this case AMH is very low representing the very low reserve of ovarian follicles.

**Discussion:**
In our daily practice most primary amenorrhoea cases, we found were cases of Turner syndrome, some are mosaicism or XY karyotype (Swyer syndrome) or Testicular Feminization Syndrome. Very few were confirmed cases of pure gonadal dysgenesis (46 XX). Gonadal dysgenesis includes – pure gonadal dysgenesis (46 XX or 46 XY = Swyer syndrome; bilateral streak gonads), mixed gonadal dysgenesis (e.g. mosaicism 45 X0/46 XY; differentiated testicles or ovaries on one side and a streak gonad on the other side) and the Turner syndrome. The condition may be due to Perrault Syndrome (XX gonadal dysgenesis + sensorineural hearing loss) or exposure to environmental endocrine disruptors. Another type of XX gonadal dysgenesis is known as 46,XX gonadal dysgenesis epibulbardermoid, which follows the similar symptoms as the regular syndrome, though it also shows signs of epibulbardermoid (eye disorder). It has been suggested to be a new type of syndrome.

Pure gonadal dysgenesis generally are seen at puberty with primary amenorrhoea. Our two reported cases also presented with primary amenorrhoea.

Nazareth et al. described consistent results in four 46,XX siblings affected by pure gonadal dysgenesis syndrome. They believed that inheritance of gene in these cases was autosomal recessive and limited to female sex. Furthermore, Namavar-Jahromiet al. presented three sisters with 46,XX pure gonadal dysgenesis, who were born from a first cousin marriage. Our two reported cases had no significant family history like this.

These patients may present with short stature, our reported cases presented with BMI-22.97 and 23.15, which mimicks with usual presentation of gonadal dysgenesis.

**Fig.-2: Karyogram (case 2)**
Most authors agree on the fact that gonadal dysgenesis does not cause breast development due to low levels of circulating oestradiol. Nevertheless, the development of pubic and axillary hair could be normal due to a normal production of androgens by the suprarenal gland.

Stenchever considers the fact that patients with pure gonadal dysgenesis or mosaicism could have few ovarian follicles during early puberty and the same time produce enough oestrogen for the development of mammary glands.\textsuperscript{13} We would like to stress the fact that our patient showed breast development, but it was incomplete.

FSH, LH levels are generally elevated and Estrogen, Testosterone levels are decreased in pure gonadal dysgenesis.\textsuperscript{19} We also found FSH-106.71mu/ml, 86.70mu/ml and LH-38.69mu/ml, 30.20mu/ml in our patients which corresponds to the findings of pure gonadal dysgenesis. Level of oestrogen in our patients was 33.2 pg/ml, 38.52pg/ml. This value was the minimum level of normal which might be the cause of her incomplete breast development, as well as her attended physician prescribed hormone, at that time for the establishment of menstruation.

In these patients it is recommended to perform routine screening to eliminate hypothyroidism, and in cases where symptoms appear, to eliminate other endocrine disorders.\textsuperscript{14} Our patients had normal TSH levels and did not show any sign of hypothyroidism.

As AMH gives an authentic picture of ovarian reserve of follicles, it can be a substitute for ovarian biopsy if the patient does not want to have it. In our cases AMH is very low representing the very low reserve of ovarian follicles.

The most common probable cause for primary ovarian failure is autoimmunity. These patients also have a higher risk of developing other immunological disorders such as Hashimoto thyroiditis, hypoparathyroidism, adrenal insufficiency or pernicious anaemia. We did not investigate for her anti-thyroid, anti-ovarian or anti-adrenal antibodies, so we cannot rule out an autoimmune etiology.

In the reported case-1: USG in 2013 showed small sized ovaries with presence of few follicles. In case-2: USG in 2016 showed small sized ovaries. These presentation are comparable with findings of pure gonadal dysgenesis.

Nowadays, genetic assessment is recommended, especially in the case of families with fragile X syndrome. If an isolated case occurs, the risk to other women in the family of developing this illness is probably the same as for the rest of the population. Peripheral blood karyotype of both of our patients was 46,XX.

Ropke et al consider mosaicism in gonadal karyotype as a frequent cause of gonadal dysgenesis, regardless of a normal peripheral karyotype.\textsuperscript{15} They strongly recommended testing the karyotype of the gonadal tissue because this information could be extremely useful.

In addition, Massin et al recommend an ovarian biopsy in case of pure gonadal dysgenesis due to the fact that, it is a stronger indicator than pelvic ultrasound for the presence of follicles in the ovaries.\textsuperscript{16} Our first case underwent a diagnostic laparoscopy with ovarian biopsy that confirmed our diagnostic hypothesis (fig 1). Second case was not agreed to undergo laparoscopy. We did not do karyotyping of the gonadal tissue, can be considered as a limitation in this study.

Long-term lack of oestrogen could cause early bone loss and osteoporosis in these patients. In addition, the lack of female sexual hormones represents an important risk factor for neurological, metabolic and cardiovascular health problems. Therefore, these patients would require hormone replacement therapy with oestrogens and progesterone.\textsuperscript{17} So we prescribe their treatment and after giving treatment of six to nine months they start menstruation. Our findings correlate with the findings of Baron J. et al.\textsuperscript{21} The aim of giving treatment is to prevent sterility and tumorigenesis. Sterility is an obvious consequence in patients with premature ovarian failure. Nevertheless, patients could become mothers with proper endometrial stimulation and subsequent implanting of embryos, fertilized with donated ovum.\textsuperscript{22}

Furthermore, Namavar-Jahromi et al. obtained that malignant degeneration of the streak gonads should be considered in the patients with 46,XX PGD.\textsuperscript{18} Usually tumorigenesis occurs in patients with identifiable Y chromosome, however malignant degeneration of the streak gonads in the patients with 46,XX pure gonadal dysgenesis can also be noted.
Conclusion:
Any evaluation of a woman with primary amenorrhoea must begin with a detailed history, physical examination and careful review of her clinical background. If recommended, a series of blood analysis including female sexual hormones (oestrogens and progesterone) and levels of gonadotropins (follicle stimulating hormone (FSH) and luteinizing hormone (LH)) should be included.

An early diagnosis is extremely important in order to start treatment promptly for the management of symptoms, provide emotional support to the patient and reduce the risks of long term complications.

As gonads in above cases cannot make estrogen and progesterone, so HRT with OCP or sequential pill were given for withdrawal bleeding as well as for development of secondary sexual characteristics. This is often given through the skin now.

As gonads cannot produce eggs, they would not be able to conceive children naturally. A woman with a uterus but no ovaries may be able to become pregnant by implantation of another woman’s fertilized egg (embryo transfer)-might be a solution for them.

Patient’s consent: Patient/guardian consent was obtained for publication in both cases.

References:
Bochdalek Hernia in Asymptomatic Adults: A Case Report of Radiological Importance

AM AZIZ\textsuperscript{a}, R YASMIN\textsuperscript{b}, MA HAQUE\textsuperscript{c}

Summary:
Congenital Diaphragmatic Hernias (CDH) is a rare entity with incidence of 1:3000 live births. Late presentation is unusual and in most cases is diagnosed in adolescents or early childhood. Asymptomatic diaphragmatic hernia in the absence of trauma is very rare in adults. The finding of CDH in adults is mostly incidental. Left sided hernia i.e. Bochdalek hernia is more common. It is more commonly associated with other anomalies. The morbidity and mortality are mainly due to pulmonary hypoplasia. We report a case of CDH, posterolateral defect (Bochdalek type), with mild mediastinal shifting to right side in a young lady, who was asymptomatic throughout the life and referred to us for evaluation of incidental findings of chest X-ray abnormality who was suffering from cholelithiasis. The surgical approach for the resolution of this pathology is variable and it depends on the presence and severity of visceral complications.

Keywords: Congenital diaphragmatic hernia, Bochdalek hernia, diaphragm.

Introduction:
Congenital Diaphragmatic Hernia (CDH) is a term applied to a variety of congenital birth defects that involve abnormal development of the diaphragm through which protrusion of abdominal viscera into the chest cavity occur.\textsuperscript{1} CDH is classified according to the location of the protrusion, including in hiatal hernia, Morgagni-Larrey hernia and Bochdalek hernia.\textsuperscript{2} Bochdalek hernia was first described in 1848 by the Czechoslovakian anatomist, Vicent Alexander Bochdalek.\textsuperscript{3} It is a posterior congenital defect of the diaphragm caused by a lack of closure of the pleuroperitoneal cavity between the eighth and tenth week of embryonic life. 70% to 90% of cases occur on the left.\textsuperscript{4} It usually presents in childhood with an incidence ranging from 1:4000 to 1:7000 newborns\textsuperscript{5} and more frequent in male.\textsuperscript{6,7} Patients usually presents during the first hours after birth with severe respiratory failure.\textsuperscript{8,9} It is rarely seen in adults, with little more than 100 cases reported in the literature.\textsuperscript{10} Traumatic diaphragmatic hernia can present in any age group.\textsuperscript{11} Asymptomatic large Bochdalek hernia is quite rare among adults.\textsuperscript{12} These patients usually present with difficulty in breathing or pneumonia like symptoms or gastrointestinal symptoms and end up being diagnosed with CDH.\textsuperscript{13} CDH should be included in the differential diagnosis of pneumonia and other respiratory or gastrointestinal diseases.\textsuperscript{14,15} A definite diagnosis can be made by CT alone because of its characteristic features.\textsuperscript{12} Here is a case of an asymptomatic adult with a large left sided Bochdalek hernia.

Case Report:
A 25 year old housewife hailing from a rural community presented to surgery department for elective cholecystectomy. As a part of pre-operative assessment basic investigations including chest x-ray was done. Then she took subsequent two courses of antibiotics for radiological abnormality in left lung. But her radiological abnormalities didn’t improved. Then she was referred to our department for further evaluation of that radiological abnormalities which showed a nonhomogeneous opacity occupying left mid and lower zone with mediastinal shifting was found in the left lung in chest X-ray [Figure-1].

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As she was asymptomatic with normal laboratory investigations and such radiological findings, we further investigate her to find out other possibilities including congenital anomalies.

A CT scan of the chest with abdominal screening was advised. Computed tomography with oral contrast demonstrated a left hemi-diaphragmatic defect with herniation of stomach and coils of intestine into the thorax, compression of the left lung and mild mediastinal shifting suggestive of diaphragmatic hernia-Bochdalek’s. Finally the patient was referred to thoracic surgeon for surgical correction of the defect.
Discussion:
A Bochdalek hernia is a congenital defect of the diaphragm located in the posterior insertion. This is caused by a lack of closing of the pleuroperitoneal cavity by incomplete diaphragmatic development before the intestine returns to the abdomen from the yolk sack between weeks 8 and 10 of gestation. If hernia formation precedes lung development, pulmonary hypoplasia may occur with severe respiratory compromise at birth. The diaphragmatic defect may be congenital or acquired. The most frequent cause of herniation of the abdominal viscera in adults seems to be trauma (blunt or penetrating) followed by iatrogenic (esophago-gastric surgery for esophagus cancer or gastric cancer). In adults, this defect is uncommon, the lung in most cases develops normally and therefore symptoms are rare. The most frequently displaced organ is the stomach followed by the colon, spleen, small intestine and ureter.

The overall prevalence of asymptomatic BH in adults is 6%. From all patients with a congenital BH only 5% will be diagnosed in childhood or adulthood. In 1959 Kirkland published the first review of 34 cases of adult BH. Adult BHs can present in two ways. They can give rise to vague, mainly gastrointestinal (abdominal pain, nausea and vomiting, constipation) or respiratory (chest pain, dyspnoea, wheezing) symptoms, followed by severe attacks and episodes of incarceration with serious consequences. Characteristically, these symptoms can be intermittent, as herniated viscera can spontaneously reduce causing symptom regression. Others will present with serious complications associated with strangulation of herniated viscera, especially when the diagnosis has been missed or treatment delayed. There have been reports of BH presenting with sudden death from intrathoracic complications. Gastric volvulus is one of the rare but recognized complications of BH.

The diagnosis can be achieved through a simple chest X-ray, computerized axial tomography and MRI or an upper gastrointestinal series. Typically, radiological images show intra-thoracic gas-filled loops of the bowel with/without mediastinal shifting. In some cases, the herniated bowel loops may be present as an opacity mimicking a lung consolidation. In other cases the gas-filled bowel loops may simulate a pneumothorax. Rarely, the herniated bowel loops may be complicated and present as intestinal obstruction or volvulus. So for these variable presentations, diagnosis of Bochdalek hernia by only X-ray films are not always easy.

A computed tomography (CT) scan is the radiological investigation that allows the highest accuracy for a correct diagnosis. It provides a precise assessment of the anatomical relationships between the viscera, and congenital malformations, as in our cases. The typical findings of the CT scan are the presence of fat or soft tissue over the upper surface of the diaphragm characteristically posterolateral, a mass adjacent to the diaphragmatic defect, and a continuous density over and under the diaphragm’s discontinuity.

In our case a left hemi-diaphragmatic defect with herniation of stomach and coils of intestine into the thorax, compression of the left lung and mild mediastinal shifting was observed. The principal management of Bochdalek hernias include reducing the abdominal organs and repairing the defect. The surgical approach for this pathology depends on the presence of visceral complications. In an elective setting most authors recommend the thoracic approach; on the other hand, when there are septic complications, the abdominal approach is preferred. The current trend is to use minimal invasive surgical techniques such as laparoscopy, and specially thoracoscopy, which has been satisfactorily performed in adults.

Very few cases of delayed presentation of CDH in asymptomatic adults are described in the literature. We report a case of asymptomatic adult patient who was referred to us for the evaluation of persistent left lung opacity on chest X-ray. Computed tomography of the lung confirmed the diagnosis of diaphragmatic hernia. The aim of this case report is to aware the clinicians regarding evaluation of causes of asymptomatic lung shadow on chest X-ray in adults, diaphragmatic hernia should be a consideration.

Conclusion:
Bochdalek hernias are an uncommon diagnosis among adult populations because they are mainly recognized in infancy or early childhood. They can be easily documented with a chest X-ray or CT thorax, in most cases incidentally although some adult patients may present with symptoms due to hernia complications.
Hence high index of clinical suspicion and knowledge of this anatomic defect is crucial for the identification and management. It should be surgically corrected to avoid complications. To improve the quality of medical treatment for CDH in adults, more cases will need to be reported and long-term follow up should proceed.

References:
6. Torfs CP, Curry CJ, Bateson TF, Honore LH: A population-based study of congenital diaphragmatic hernia. 7
A 20 years old male patient was admitted to the hospital with the complaints of fever for 9 days, vomiting out of blood for 7 days and black tarry stool for 4 days. He gave history of taking NSAID.

On examination patient was normotensive.

Endoscopy showed multiple erosions in the cardia, fundus and antrum of the stomach. No active bleeding was seen.

CT scan of the whole abdomen was performed. In CT scan oral low attenuation contrast medium i.e. water was given to see any high density area within the bowel to exclude any active bleeding. Two high density (70 HU) areas were seen in the fundus and along the lesser curvature of the stomach.

After intravenous contrast administration, early arterial phase i.e. CT angiogram (18 sec after giving I/V contrast) scan was taken to see Aorta and its branches to identify bleeding vessels. Two active bleeding vessels were identified. One from short gastric artery branch of splenic artery supply the fundus (Fig. 1 and 3) and another from left gastric artery supply the lesser curvature of stomach (Fig. 2 and 4). No aneurysm was identified.

**Fig.1**: High density area along fundus of stomach.

**Fig.2**: High density area along lesser curvature of stomach.

**Fig.4**: Active bleeding from left gastric artery.

**Fig.3**: Active bleeding from short gastric artery branch from splenic artery.

a. Dr. Sharmin Akhtar Rupa, Associate Professor, Department of Radiology and Imaging, Popular Medical College and Hospital, Dhaka.
b. Dr. Humayra Tahseen Hossain, Associate Professor, Department of Medicine, Popular Medical College and Hospital, Dhaka.

**Address of correspondence**: Dr. Sharmin Akhtar Rupa, Associate Professor, Department of Radiology and Imaging, Popular Medical College and Hospital, Dhaka.
Finally, Endoscopy and CT scan of whole abdomen including CT angiogram concluded it is a case of NSAID induced erosive gastritis.

References:
To
The Editor-in-Chief
Journal of Bangladesh College of Physician & Surgeons

Sir,

I would like to thank you for publishing the article “Prevalence of High Risk Human Papillomavirus (Type-16 & 18) in High Grade Cervical Intraepithelial Neoplasia (CIN) and Cervical Cancer in a Tertiary Hospital of Bangladesh” in your journal. I have gone through the article and appreciate the authors for giving me the opportunity to learn about prevalence of high risk HPV among high grade CIN and cervical cancer. I would like to share some of my observation and comments regarding this article.

The overall get up of the article is excellent. The introduction is nicely written but some evidence regarding hospital based studies in Bangladesh should be included in introduction. The hospital based studies in Bangladesh clearly indicated that 96.7% of cervical cancer and 83.3% of CIN 2/3 (HSIL) cases were HPV positive.\(^1,2\)

In table-II of result section it is better to mention the distribution of HPV in adenocarcinoma and squamous cell carcinoma separately. Because HPV-18 is more prevalent in adenocarcinoma.\(^3\)

In the references, most of the references are old and there is duplication of reference no. 6 and 21.

Finally, I appreciate the authors for their hard work.

References:

Dr. Nazneen Begum
Associate Professor
Department of Obstetric & Gynaecology Department
Dhaka Medical College, Dhaka.
Bangladesh

Dear Sir,

Thank you very much for going through the article meticulously. I also appreciate for pointing out the lackings in different part of the article.

I fully agree with your observations that evidence of hospital based research in Bangladesh should be included in introduction.

In result section it would be better to mention prevalence of HPV in adenocarcinoma separately. But the number of adenocarcinoma cases were so less (only 2) that statistical analyses was difficult.

I do apologies to you and all other readers for duplication and not included the recent update studies. There were few recent studies on it especially in developing countries.

Again, I thank you for your constructive criticism.

Sincerely Yours.

Dr. S. M. Shahida
Associate professor
Obst. and Gynae department
Dhaka Medical college,Dhaka.
Bangladesh
College of Examinations news: Results of FCPS Part-I, Part-II and MCPS examination held in July are given below:

1656 candidates appeared in FCPS Part-I, examination held in July, 2018 of which 179 candidates came out successful.

Subject wise results are as follows:

Result of FCPS Part-I Examination (July, 2018)

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The following candidates satisfied the Board of Examiners and are declared to have passed the FCPS - II Examinations held in July, 2018 subject to confirmation by the council of Bangladesh College of Physicians and Surgeons

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The following candidates satisfied the Board of Examiners and are declared to have passed the MCPS Examinations held in July, 2018 subject to confirmation by the council of Bangladesh College of Physicians and Surgeons.

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Greetings for Eid-ul-Ajha. The sacrifice will give us the spirit of being a noble and dedicated person.

Editorial board has got the privilege to inform all the fellows that the BCPS journal is now regularly available online around 15 days prior to the expected date of publication.

Please keep in touch with us and help the board to maintain the quality of the journal.

Thank you all for sincere support

Prof. Ferdousi Islam
Editor in chief