ISSN 2313-4941

Volume 8 Number 1 January 2020

The Journal of Ad-din Women's Medical College

The Journal of Ad-din Women's Medical College

Volume 8, Number 1, January 2020

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An official organ of Ad-din Women's Medical College

The Journal of Ad-din Women's Medical College

Volume 8, Number 1, January 2020

Published by : **Prof. Dr. Ashraf-Uz-Zaman**
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Printed by : **Asian Colour Printing**
130, DIT Extension Road, Fakirerpool, Dhaka, Bangladesh
Phone : 58313186, 8362258, E-mail : asianclr@gmail.com

ISN : 2313-4941

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Acknowledgements

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1. Parkin DM, Clayton D, Blook RJ, Massyer E, Fried HP, Iranov E et al. Childhood leukaemia in Europe after Chernobyl: 5 years follow up. Br J Cance 1996; 73: 1006-1012

2. Paganini HA, Chao A, Ross RK, Henderson Aspirin use and chronic diseases: a cohort st of the elderly. BMJ 1989; 299: 1247-1250

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1. Gyton AC, Hall JE The thyroid metabolic hormones In Textbook of Medical Physiology. 10th edn. NewTork: WB Saunders Company. 2000: 858-86

(iii) Internet

I. Harverd medical school Available https:// en.wikipedia. org/wiki/havard medical college, accessed October 2011

(iv) Thesis/Dissertations

1. Khan MAH. Lipid profile and renal function status of hypothyroid patients [MD Thesis). Dhaka Bangabandhu Skeikh Mujib Medical University:2005

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1. Akutsu T. Total heart replacement device. Bethesda MD: National Institutes of Health, National Heart and Lung Institute, 1974 Apr report No. N1H-NHLI-69 2185-4 Ethical approval

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- Study concept
- study design
- data collection & processing
- statistical analysis
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Editorial

Pediatric Urolithiasis: Pros and Cons of a Paradigm Shift in Childhood Kidney Disease

ARM Luthful Kabir and M Afiquor Rahman

This editorial focuses on recent changes in the pattern in paediatric urolithiasis as well as incidence and prevalence of this disease. Very few researches are found in Bangladesh about urinary tract stone burden in paediatric age group. A retrospective study conducted by Prof. Afiquor Rahman et al. demonstrates the five most common urological diseases in children among which stone disease was not present.[1]

Urolithiasis, a disease of the genitourinary system, may be defined as the presence of urinary stones at any location in the urinary tract, resulting in the precipitation reaction of chemical compounds.[2]

In the past, urolithiasis was characterized by bladder calculi in children of developing countries. The incidence of upper tract calculi used to occur mainly in industrialized areas, which was much lower in children than in adults. Also, in contrary to adult stone formers, children are more likely to demonstrate risk factors other than the metabolic factors such as UTI, anatomical abnormalities, and surgical alterations in the urinary tract. Nowadays, the incidence of upper tract calculi in children without these predisposing factors is rising globally, and the patterns are also changing.[3,4]

Based on the studies on adult populations, nephrolithiasis affects men more than women, whereas, pediatric nephrolithiasis is more commonly found in girls as per recent data.[4] Changing socio-economic conditions caused changes in the prevalence, incidence and distribution for age, sex and type of urolithiasis in terms of both the site and the physiochemical composition of the calculi.[5] Although pediatric urolithiasis is less frequent than adult stone disease, it still plays a crucial and increasing role, not only in parts of the world with a high incidence of stone disease such as the Near and Far East, but also in the industrialized countries.[6]

Despite the achievement of great progress during the past few decades in a better understanding of the etiology, pathophysiology, treatment and prevention of urolithiasis, many aspects regarding childhood urolithiasis still are controversial and are also dependent on obvious regional diversities of stone disease.[7]

Pediatric urolithiasis is endemic in low-resource countries where infants constitute 17–40% of all children with urolithiasis.[8] The so called 'Afro-Asian stone-forming belt' extends from Sudan, the Arab Republic of Egypt, Saudi Arabia, the United Arab Emirates, the Islamic Republic of Iran, Pakistan, India, Myanmar, Thailand, and Indonesia to the Philippines.[9,10]

Calculi observed in developing countries are often limited to the bladder and comprise mostly of ammonium acid, urate, and uric acid, and seem to be related with a low dietary phosphates.[10] In addition, in the United States, calculi are found mainly in the kidneys or ureters, comprising of either calcium oxalate or calcium phosphate, and often associated with a metabolic abnormality.[10,11]

Risk factors associated with the formation of urinary calculi can be divided into two main categories - intrinsic or extrinsic factors. Age, gender, ethnic and familial backgrounds constitute the intrinsic factors; while the latter group consists of climate and environment, lifestyle and dietary habits, occupation and education level. The most important factors which determine the prevalence, incidence, recurrence rates and constituent of calculi, are climate and dietary habits.[10]

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Received Date : 06 October, 2019
Accepted Date : 15 December, 2019

Conservative treatment of urolithiasis and prevention of stone formation in children usually require adequate fluid intake, low salt and animal protein diet in all stone formers. Individuals with calcium-oxalate stones need a diet containing a proper amount of dairy product, low oxalate diet, if indicated: thiazide diuretics, magnesium salts, citrate. In uric acid stones, patients are advised for low purine diet, alkalization of urine up to pH 6.5-7.0, if indicated: allopurinol. Treatment of infection stones require treatment of the urinary tract infection, low phosphate diet. In case of cystinuria: low animal protein diet, alkalization of urine up to pH 7.0, if indicated: captopril, d-penicillamine.[13]

Shock wave lithotripsy (EWL) is currently the procedure of choice for treating most of the urinary stones in children. Shock wave lithotripsy should be the treatment modality for all renal stones that are less than 1 cm or < 150 mm^2, soft renal stones. Indications for Percutaneous nephrolithotomy (PCNL) in children are similar to those in adults and include large burden stone more than 2cm, hard renal stone (> 900HU on CT scan) between 1 to 2cm, significant renal obstruction, urinary infection, failure of SWL and significant volume of residual stones after open surgery. Vesical stones can be managed by transurethral or percutaneous suprapubic lithotripsy.[14]

Uteroscopy is the treatment of choice for calculi, particularly located in the distal and mid ureter and is more efficient than ESWL.[15]

Although incidence of urolithiasis in children is increasing day by day, studies related to this disease are still less in number. To know more about the underlying risk factors, pathophysiology, evaluation and treatment of this disease, the field of Paediatric Urology should be paid more attention globally and as such adequate measures should be also be taken in Bangladesh.

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Original Article

Routine Post-Operative Hemoglobin Estimation in Low-Risk Cesarean Section: Recent Observation from a Pro-Poor, Pro-Women Urban Hospital, Dhaka

Laila Noor[1], Khadiza Dilshad[2], Sadah Hasan[2], Sadia Afrin Suchona[2], Meherun Nessa Neela[3], Merina Tanzil[4]

Abstract:

Introduction: Globally, caesarian section (CS) remains a common mode of delivery including Bangladesh, which remains an operative procedure. Blood loss, and thus, drop in hemoglobin (Hb) concentration is inevitable in CS when blood loss/remains <1000mL, in uncomplicated cases or in low risk pregnancies that generally do not adversely affect maternal and perinatal outcome. We at the AWMCH routinely track post-CS Hb after 48 hours, but this widely accepted blood ordering practice (globally) may create certain concerns on its safety, cost-effectiveness, and utilization. This half yearly survey is thus aimed at ascertaining if low-risk CS-cases do really require routine Hb estimation/blood transfusion.

Objective: To attest the doligation of routine estimation of hemoglobin, post-operatively, particularly in obvious low risk-CS cases.

Methods: This 6 month-long prospectively designed observational study was conducted among all the 108 pregnant women having normal hemostasis profile who underwent CS (emergency and elective) at the department of Obstetrics and Gynecology (OBGYN) of Ad-Din Women's Medical College Hospital. Dhaka, Bangladesh. Females with abnormal bleeding profile or on anticoagulant therapy were excluded, other excluding criteria are gestational age <28weeks, grand multipara, multiple pregnancies, H/O previous 3 or more CS, fetal birth weight >4kg, high risk PPH cases and patients with comorbidities. To waive seasonal biasness this study was conducted from July through December 2019.

Results: Mean age of women was 26.5±6.27 (range 18-35) years. Of their parities, 65% were between 1-3 and 76% women were at term pregnancy (37-40 weeks). Blood groups of all study-women, were phenotypically positive, except one being A-ve, while group B and group O predominantly prevalent with 32.4%, each, followed by A (24%) and AB positive (5%).

While the leading indication of performing CS was fetal distress (22% women), more than half (56%) of all women underwent an elective-CS and 44% underwent an emergency-CS.

The average preoperative-Hb (hemoglobin) level was 12.23±1.13 gm/dl (ranging 10.6-15.6 gm/dl), while the postoperative-Hb level was 10.74±1.49 gm/dl.

Notably, drop in Hb in majority cases (34%) was minimal (<0.5 gm/dl), whereas max. Hb% drop was 0.6-lg/dL in 6 cases followed by >2g/dL in another 6 cases. Hence, average drop in Hb among emergency CS cases wasl.58±0.96 gm/dl contrary to that of 1.36±0.96 gm/dl among elective surgery cases.

Conclusion: Our findings do suggest in general, Hb-estimation in routinely, low risk-CS scenarios are merely required, but blood grouping remains mandatory in emergency-CS cases. Since our finding remains institutional based (in AWMC), neither these findings can be taken as national-level data, nor any recommendation should be made flatly, unless findings from other similar yet multi-center studies conforms or refute/our ones.

Keywords: Cesarean Section (CS), Hemoglobin, Pro-women Urban Hospital

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Received Date : 12 November, 2020

Accepted Date : 15 January, 2020

Introduction:

Caesarian section is a common mode of delivery in the contemporary days which is an operative procedure where blood loss and thus Hb drop is inevitable.[1] The minimum blood loss in uncomplicated cases being lOOOmL and it is safe to say that the chances of blood loss is less in low risk cases than high risk ones.[2-3] Low-risk pregnancies are considered as the pregnancies not having risk factors or obstetric or medical complications that may adversely affect the maternal and perinatal outcome. With these views, we

at the AWMCH, routinely track post-operative hemoglobin (Hb) after 48 hours post-CS which remains a widely practiced blood ordering issues, though major concern is growing owing to its safety, cost-effectiveness, and utilization of blood/products. We conducted this study to ascertain if low-risk cases of CS really require the routine Hb estimation and preparation for blood transfusion.

Aim : To attest if routine Hb% estimation remains obligatory following CS

Objective(S) : To attest the obligation of routine estimation of hemoglobin, post-operatively, particularly in obvious low risk-CS cases.

Materials and Methods:

Study type: Observational

Study design: Prospective

Study design: 6 months (to waive out seasonal bias it was conducted from Jan to- June, 2021)

Study place: Department of Obstetrics and Gynecology (OBG) of Ad-Din Women's Medical College Hospital, Dhaka, Bangladesh.

Study subjects : Pregnant women who underwent CS: Females with abnormal bleeding profile or on anticoagulant therapy were excluded, other excluding criteria are gestational age <28weeks, grand multipara, multiple pregnancies, H/O previous 3 or more CS, fetal birth weight >4kg, high risk PPH cases and patients with comorbidities.

Sampling design: Non-randomized purposive sampling (all cases were studied)

Sample size: 108 pregnant women preselected for CS.

Study parameter:

- Females with normal hemostasis profile were included in the study, while those with abnormal bleeding profile or on anticoagulant therapy were excluded.
- The parameters included age of the woman, parity, gestational age, type of the CS whether elective or emergency and indications of CS.
- Preoperative Hb was estimated and blood group was checked. Blood units arranged and cross-matched preoperatively, units of blood transfused intra-operatively or postoperatively were also counted as well.
- Blood arrange' refers to only blood grouping, cross-matching and hold order to blood bank. Postoperative Hb were done at 48 hours post CS.

Data management:

The collected data, utilizing a pre-selected open and closed ended-questionnaire, were entered into an IBM PC using the statistical software package 'SPSS- V.22' (Statistical Program for Social Sciences).

Analysis plan:

All the discrete values were analyzed using proportional statistics, like, Chi-Sq tests, while the continuous variables were analyzed suing t-test/ correlations, as and whenever deemed necessary.

Results:

Mean age of the women included in the study was 26.5±6.27 years ranging from 18 to 35 years. 64.8% cases were between para 1-3. 75.9% cases were at term pregnancy (37-40 weeks).

Table-I: Age distribution of CS (N=108)

Age	Frequency	Percent
18-25 years	55	50.9
26-35 years	46	42.6
>35 years	5	4.6
Total	108	100

Table I shows that majority (50.9%) of the patients were between age 18-25yrs.

Among the indications of CS, fetal distress was the leading indication for CS, accounting for about 22.2%.

Among all, 44.4% women underwent emergency CS, whereas 54.6% underwent elective CS. Most frequent blood group to be found was B positive (32.4%) followed by O positive (32.4), A positive (24.1%), AB positive (4.6%), A negative (.9%).

Table-II: Indication of CS (N=108)

Indication of CS	Frequency	Percentage
Foetal distress	24	22.2
Previous CS-1	15	13.8
CPD (Cephalo-pelvic disproportion)	12	11.1
Previous CS-2	11	10.1
CDMR (Caesarean Delivery on Maternal Request)	8	7.4

The average preoperative hemoglobin was 12.23±1.13 gm/dl ranging from 9.6 gm/dl to15.6 gm/dl. The average postoperative hemoglobin was 10.74±1.49 gm/dl. In majority (34%) cases, drop in hemoglobin was <0.5 gm/dl and maximum Hb% drop were 0.6-1g/dL and >2g/dL in 6 cases each. Average drop in hemoglobin at emergency surgery was 1.58±0.96 gm/dl whereas at elective surgery it was 1.36±0.96 gm/dl.

While drop in hemoglobin was minimum as less as <0.5 gm/dl in majority (34%) cases, the maximum drop of 0.6-1g/dL was and >2g/dL in 6 cases each.

Table II shows that Among the indications of CS, fetal distress was the leading indication for CS, accounting for about 22.2%.

Table-III: Post-operative Hb conc among post- operative patients.

Hb (post operative)	Frequency	Percentage
<8g/dL	0	0
9-11 g/dL	21	19.4
12-13 /dL	85	78.7
>13 g/dL	2	1.8

Table III shows that pre-operative Hb was 9-11 g/dL in 19.4% cases, 12-13g/dL in 78.7% cases and > 13 g/dL 1.8% of cases.

Table-IV: Perioperative blood transfusion

Units of blood transfused	Frequency	Percentage
No	102	94.4
1	5	4.6
2	1	0.9
>2	0	0

Table IV shows that 102 cases (94.4%) required no blood transfusion, 5 cases (4.6%) required one unit of blood, 1 case (0.9%) required 2 units of blood transfusion.

Table-V: Post-operative Hb drop

Post-operative Hb drop	Frequency	Percentage
<0.5	34	31.4
0.6-1	13	12
1.1-1.5	10	9.2
1.6-2	6	5.5
>2	6	5.5

Table V shows that post-operative Hb drop was <0.5 in 34 cases (31.4%), 0.6-1 in 13 cases (12%), 1.1-1.5 in 10 cases (9.2%), 1.6-2 in 6 cases (5.5%) and >2 in 6 cases (5.5%).

Discussion:

Obstetric hemorrhage is among the leading causes of direct maternal mortality[1] and morbidity[2] in obstetric practice that remains a major contributor to maternal mortality in developing countries[3], CS is the most common major obstetric operation. Bleeding is the most common complication during and after CS. Traditionally, the blood loss ≥500 ml after vaginal delivery and > 1000 ml after CS has been classified as postpartum hemorrhage (PPH).[4]

CS has been identified as one of the commonest indications for blood transfusion in obstetric practice because it involves risk of major intra-operative blood loss[5]. The indication for CS and quantity of blood loss during the surgery was significant risk factors for blood transfusion. Currently, post-operative hemoglobin is estimated routinely within 48 hours after CS in AWMCH.

While there is a wide variation in blood ordering practices for CS, over the last few years it has become a growing concern for safety, cost and blood utilization[6]. Routine hemoglobin (Hb) testing after CS is one of the very common features of postoperative care.

The possible risk factors contributing to hemorrhage are prolonged labor, augmented labor, history of postpartum hemorrhage, pre-eclampsia, over distended uterus, chorioamnionitis[7]. Severe hemorrhage requiring blood transfusion can be predicted in majority of patients on the basis of antenatal risk factors. But accurate estimation of blood loss during this surgery is difficult because of dispersion of blood and blood being mixed with amniotic fluid.

Evidence-based health policies and programs aiming to reduce maternal deaths need reliable and valid information. Estimation of postoperative Hb level is an

indirect evidence of blood loss preoperatively or immediate postoperatively that necessitates blood transfusion.[8]

Anesthesiologists often rely on clinical estimation of blood loss alone to guide the transfusion of blood in the perioperative period because other methods of estimations either may not be practical or available at all times[9].

Post-operative Hb estimation Is an indirect evidence of estimation of perioperative blood loss when preoperative Hb level is known, which renders the estimation of post-operative Hb a routine procedure at AWMCH, done 48 hours after the surgery.[10]

In this study, the mean age of the women included was 26.5±6.27 years ranging from 18 to 35 years. 64.8% cases were between para 1-3. 75.9% cases were at term pregnancy (37-40 weeks). Among the indications of CS, fetal distress was the leading indication for CS, accounting for about 22.2%.

The average preoperative hemoglobin was 12.23±1.13 gm/dl ranging from 9.6 gm/dl tol5.6 gm/dl. The average postoperative hemoglobin was 10.74±1.49 gm/dl. In majority (34%) cases, drop in hemoglobin was <0.5 gm/dl and maximum Hb% drop was 0.6-1 g/dL and >2g/dL in 6 cases each. Average drop in hemoglobin at emergency surgery was 1.58±0.96 gm/dl whereas at elective surgery it was 1.36±0.96 gm/dl.

Among all 108 cases, only 6 (5.5%) cases required blood transfusion peri-operatively, of which, the most frequent indication was fetal distress accounting for 3 out of 6 cases, followed by 2 cases with H/O previous CS and 1 case was bad obstetric history. Only one (0.9%) patient required 2 units of blood transfusion, one perioperatively and one on first postoperative day.

Although the incidence of severe transfusion reactions and infections is very low, in recent years it has become apparent that there is an immunological price to be paid for the transfusion of blood products which leads to increased morbidity.[11] Moreover, blood is a finite resource with a limited shelf life and is associated with considerable processing costs. Therefore, utilization of this resource needs critical review to identify areas of overuse and thus reduce risk to patient and hospital costs.

Efforts should be made to reduce the blood transfusion without increasing maternal morbidity and Mortality.[12] Past literatures also suggest eliminating cross-matching for CS in the absence of significant risk factors[13]. Consistent with our findings, previous studies have shown that patients requiring an emergency CS have increased blood loss compared to elective CS and require more blood transfusion.[14]

While there is no difference between the groups regarding CS indications, conditions with increased atony are also risk factors for postoperative Hb decrease. It has been shown that a woman can withstand post-hemorrhagic hematocrit level of 20%. Transfusion may be appropriate when hemoglobin is 7-10 gm/dl and there is active bleeding associated co-morbidities.

Post CS Hb level in a female depends upon various factors like amount of blood loss during the surgery, iron stored in the body during pregnancy, lactation and body mass index (BM1). Sudden hemorrhage may occur with any manipulation of the highly vascular term uterus.[15]

Hb estimation required additional man power, work load of health care provider and extra financial cost to the patient and patient party. Most cases included in this study that Hb drop is not significant for blood transfusion. So it is not necessary to do mandatory routine Hb% post-operative estimation in low risk caesarian cases.[16]

Conclusion:

In conclusion, there is no need of routine Hb estimation in low risk CS. Only grouping with confirmation of availability should be done for emergency situation. However, this surgical audit is institutional based, recommendation cannot be generalized.

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Original Article

Association between socio-demographic factors and nutritional status among women of reproductive age living in a Dhaka peri-urban community

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Abstract

Background: Concepts of malnutrition encompass both under- and over-nutrition. In Bangladesh, underweight continues to be more common, but prevalence of overweight shows an increasing rate since past few years. Underweight or overweight/obesity co-exists and accounted for over 20% Bangladeshi women. Poor nutritional status not only affects women's health and their working capabilities but also remains an important determinant of pregnancy outcome. Identifying determinants of nutritional status of married women of reproductive age (MWRA) in such resource-limited settings remains important including other physical, intellectual, academic professional attainments.

Objectives: To find out if socio-demographic status is associated with that of nutritional status among women of reproductive age living in semi-urban communities of Dhaka, Bangladesh.

Materials and Methods: This cross-sectional study was conducted among 419 MWRA (ranging 15 to 49 years) from November 2015 through April 2016 in a peri-urban community of Keraniganj, Dhaka. With informed verbal consent from respondent's (MRA) socio-economic status (SES) were recorded to determine if their nutritional status (Body mass index- BMI and left Mid-upper Arm Circumference- MUAC) remain as risk factor as assessed by history of diseases and clinical examinations.

Results: Mean (**±SD**) age of 419 MWRA was 29.6 ±8.9 years ranging from 15-49 years, 173 (41.3%). Of them age of 173 (41.3%) ranged between 21-30 years. Of 413 MWRA, 25 (6%) were pregnant and 73 (17.4%) were lactating mothers. Average number of family member was 5.3±2.6 with a family income of 15,382.5 ±12241.6. of all, 334 (79.7%) were housewives who completed their primary, 199 (47.5%) have completed secondary (SSC) and 104 (24.8%) higher secondary-HSC. Of these MWRA 88 (28.0%) had a history of suffering from at least one chronic disease. Of all these MWRA, BMI of 198 (47.3%) were normal, 136 (32.5%) had overweight, and 60(14.3%) were obese, and, MUAC in 315 (75.2%) were normal, 72(17.2%) were obese, 32 (7.8%) were malnourished: 23 (5.5%) severely, 5(1.2%) mildly and 4 (1.05%) moderately.

Conclusion: Finding yields that most of the MWRA had better nutritional status with normal BMI (kg/m^2) and MUAC. Larger family size, lower educational level and financial status compounded by chronic diseases had an influence on MWRA's poor nutrition. Our findings suggest that strategies for preventing malnutrition (both underweight and overweight/obesity) among reproductive women needs to be implemented considering their socioeconomic status. We strongly suggest further studies in this area before it can be taken as representative since it was conducted in only one peri-urban community.

Key words: Body Mass Index, Nutrition, Double Burden Malnutrition (DBM), Married Women Reproductive age, Nutritional status, Semi urban community.

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Received Date : 03 August, 2019
Accepted Date : 05 January, 2020

Introduction:

In Bangladesh, malnutrition is a chronic problem among women. Malnutrition includes both under nutrition and over nutrition while in Bangladesh, underweight continues to be common but overweight is also increasing at a remarkable rate over time.

The burden of maternal under nutrition continues to remain high in South Asia and parts of Africa. In South Asia, the prevalence of maternal under nutrition, both acute and chronic, ranges between 10 to 40%.[1] The proportion of women reported to be under-weight in most low- and middle-income countries ranges from 10 to 19%.[2-5] Prevalence of maternal underweight and stunting remains high in Bangladesh about one third of ever-married women remains underweight and approximately half of women have a height of <150 cm.[1]

Maternal height could affect intrauterine growth genetically and/or environmental due to factors. Maternal weight prior to conception reflects nutritional status potentially available to the growing fetus. Reproduction has been identified as a possible cause of under nutrition among women in low socioeconomic status.

Mid-upper arm circumference (MUAC) remains another common anthropometric measurement to evaluate the nutritional status too.[1-4] However, MUAC has been useful in the assessment of nutritional status, particularly in community settings. In Bangladesh, recent estimates of the population mean BMI range between 19 and 20 kg/m^2, that remains lower than that of U.S.A. (~27 kg/m^2) and Japan (~23.5 kg/m^2) and ever less than our neighbor country India (21.7 kg/m^2).[1,7]

BMI <18.5 kg/m^2 is considered as an indicator of under-nutrition that may represents an individual's morbidity or other physiological and functional impairments.[7-10] Reportedly, body mass index (BMI) (kg/m^2) have a U- or J-shaped association with mortality in South-East Asian populations.

Association between socioeconomic status and BMI in low-income settings like Bangladesh, suggests that rural people is likely to be subjected to changing patterns of food availability, food composition, and consumption behavior. Studies shown that rural women were less likely to be overweight than those in urban areas. Findings underscore woman living in the more urbanized regions were at higher risk of being overweight and those living in the typically agriculture-based region deemed to be at risk of being underweight.[11-13]

Under nutrition in MWRA has been attributed to a multitude of factors, including upstream variables that the finding of a community-level WASH (water, sanitation and hygiene) practices in Ethopia,[14-16] food stability status, as well as household- and individual-level factors such as land ownership, household income and wealth, women's education level, age at first marriage, age at first delivery, multiparity and short birth interval.[1]

Robust estimates of levels and identification of determinants of nutritional status of women in resource-limited settings are important for targeting services and initiation of risk-specific interventions. The aim of this study is to find out the association between socio-demographic factors and nutritional status among married women of Bangladesh.

Materials and methods

Study design and period

This cross-sectional study was done from November 2015 through April 2016 among 15 to 49 years of rural women of some selected villages of Keraniganj, Dhaka.

Data Collection

Total 419 women were enrolled after taking informed consent. Convenient sample technique was followed to select the villages & respondents. Then epidemiological, demographic, nutritional status and risk factors of malnutrition was evaluated by taking history and clinical examination. Data was collected through a predesigned questionnaire. Pre testing was not conducted in this study. After taking verbal consent from the respondents, data was collected by face-to-face interview & height, weight & MUAC were measured using weighing machine & measuring tape ensuring privacy and confidentiality. Trained personnel were appointed to measure anthropometric data of height and weight using a standardized procedure. After collection, the data was checked & cleaned; followed by editing, coding and categorizing to detect errors or omissions and to maintain consistency and validity.

Inclusion and Exclusion criteria

Inclusion: Bangladeshi women of reproductive age those who were willing to participate.

Exclusion: Severely ill women and who were not willing to participate.

Statistical analysis

The data collected was analyzed using Statistical Program for Social Sciences (SPSS) V. 22.0. For descriptive statistics means, standard deviations & ranges for numerical data and frequencies & proportions for categorical data were calculated. Results were considered statistically significant if $p<0.05$.

Ethical Clearance

The research protocol was approved by the ethical committee of Ad-din Women's Medical College. There was no conflict of interest.

Result:

All these 419 women were (9.6 **±8.9) years ranging from** 15 to 49 years. Majority of them 173 (41.3%) were between the ages of 21-30, 25 (6%) were pregnant women and 73 (17.4%) were lactating mother. Among the respondent 334(79.7%) were housewife and completed their primary 199 (47.5%) and secondary 104 (24.8%) school. Most of the husband of the respondent completed their primary 180 (43%) and secondary 89 (21.2%) school **(Table I).**

Table 1: Socio-demographic status among the respondents (N=419)

Socio-demographic profile	N (%)
Age (years) Mean ± SD	29.6 ± 8.9
<20 years	88 (21%)
21-30 years	173 (41.3%)
31-40 years	110 (26.3%)
>40 years	48 (11.5%)
Occupation	
Housewife	334 (79.7%)
Service Holder	22 (5.3%)
Business	10 (2.4%)
Day Laborer	8 (1.9%)
Unemployed	15 (3.6%)
Educational status	
Illiterate	87 (20.8%)
Primary	199 (47.5%)
Secondary	104 (24.8%)
Higher secondary	22 (5.3%)
Graduate	5 (1.2%)
Post graduate	2 (0.5%)
Husband's education	
Illiterate	77 (18.4%)
Primary	180 (43%)
Secondary	89 (21.2%)
Higher secondary	26 (6.2%)
Graduate	5 (1.2%)
Post Graduate	4 (1%)
Others	38 (9%)
Pregnant women	25 (6%)
Lactating Mother	73 (17.4%)

In terms of BMI, our study revealed, 198(47.3%) were normal weight, 136(32.5%) overweight, and 60(14.3%) obese and regarding MUAC, 315(75.2%) were normal, 72(17.2%) obese, 23(5.5%) severe malnourished, 5(1.2%) mild malnourished and 4(1.05%) moderate malnourished. **(Table II).**

Table 2: Nutritional status among the respondents (N=419)

Nutritional status	N (%)
Body Mass index (BMI) Mean ± SD	25.1 ± 4.7
Under weight (<18.5)	23 (5.5%)
Normal (18.5-24.99)	198 (47.3%)
Over weight (25-29.99)	136 (32.5%)
Obese (30-39.99)	60 (14.3%)
Morbidly obese (>40)	2 (0.57%)
MUAC (mm) Mean ± SD	278.5 ± 54.5
Severely malnourished (<160)	23 (5.5%)
Moderately malnourished (160 -184.99)	4 (1%)
Mild malnourished (185 – 219.99)	5 (1.2%)
Normal (220-320)	315 (75.2%)
Obese (>320)	72 (17.2%)

Average number of family member was (5.3 ±2.6). Majority 273(65.2%) of the respondents were from medium size family (4-6 members), 79(18.9%) were from small size family (1-3 members) and 67(16%) from large size family (more than 6 members). Average family income was 15,382.5±12241.6 BDT and 41.9% respondents live in tin made houses. It was found that 78.3% were not suffering from any chronic disease, 21.0% suffering from one chronic disease, and 5% suffering from two chronic diseases & 2% suffering from three chronic diseases. Major number of parity 2-3 was 205 (48.9%), 0-1 was 153(36.5%) and more than 3 was 153(36.5%) (Table 3).

According to educational status, most of the respondent had normal BMI and MUAC. None of the graduate and post graduate respondent had underweight or morbid

Table 3: Predisposing factor affecting nutritional status among the respondents (N=419)

Predisposing factors	N (%)
Income status (monthly)	
Low (1500-9000)	111 (26.5%)
Middle (9001-40,000)	292 (69.7%)
High (40,001-100000)	16 (3.8%)
Physical activity	
High activity	44 (10.5%)
Moderate activity	318 (75.9%)
Sedentary life style	56 (13.4%)
Stressful condition	
Very stressful	44 (10.5%)
Occasional	226 (53.9%)
No stress	149 (35.6%)
Chronic disease (Need to give proper percentage according to page number 6 in result part)	88 (28%)
Family size (family member)	
Small (1-3)	79 (18.9%)
Medium (4-6)	273 (65.2%)
Large (7-13)	67 (16%)
Parity (Number of child)	
0-1	153 (36.5%)
2-3	205(948.9%)
>3	61 (14.6%)

obesity. On the other hand underweight, obesity and morbid obesity were found more among the respondents who had low educational status. Among the illiterate respondents, 5 (5.74%) were underweight, 44 (50.7%) were normal, 23 (26.43%) had over weight, 14 (16.09%) were obese, and 1 (1.14%) were morbidly obese. Among the respondent who completed primary school 10 (5.02%) were underweight, 77 (38.69%) were normal, 83 (41.70%) were overweight, 23 (11.5%) were obese and 1(1.14%) were morbidly obese. Underweight was found more not only in low income respondent 13 (11.71%) but also in high income group 2 (12.5%). Over weight were found more in middle income group 93 (31.84%) and high income group 8(50%) but also found in low income group accordingly 35 (31.57%) and 15 (13.51%).

According to MUAC measurement, most of the respondent in obese group had primary education 35(17.58%) followed by 16 (18.39%) illiterate, 17 (16.34%) secondary education, 3 (13.63%) higher secondary education and 1(20%) had graduate background. On the other hand, severe and moderate malnutrition were commonly found in low educational status group and low-income group. **(Table 4 and 5).**

Table 4: Association between educational and income status with BMI of the respondents (N=419)

	Under weight (23)	Normal (198)	Over weight (136)	Obese (60)	Morbidly obese
Educational status					
Illiterate (87)	5(5.74%)	44 (50.7%)	23 (26.43%)	14(16.09%)	1(1.14%)
Primary (199)	10 (5.02%)	77(38.69%)	83(41.70%)	23(11.5%)	1(0.01%)
Secondary (104)	6 (5.76%)	61(58.65%)	24(23.07%)	13(12.5%)	0
Higher secondary (22)	2(9.09%)	12(54.54%)	5(22.72%)	3(13.63%)	0
Graduate (5)	0	3(60%)	19(20%)	1(20%)	0
Post graduate (2)	0	1(50%)	0	1(50%)	0
Income status					
Low (111)	13(11.71%)	48(43.24%)	35(31.53%)	15(13.51%)	0
Middle (292)	8(2.73%)	146(50%)	93(31.84%)	43(14.72%)	2(0.01%)
High (16)	2(12.5%)	4(25%)	8(50%)	2(12.5%)	0

Table 5: Association between educational and income status with MUAC of the respondent (N=419)

	Severely malnourished (23)	Moderately malnourished (4)	Mildly malnourished (15)	Normal (315)	Obese (72)
Educational status					
Illiterate (87)	2(2.29%)	1(1.14%)	3(3.44%)	65 (74.71%)	16(18.39%)
Primary (199)	13(6.53%)	3(1.5%)	0	148(74.3%)	35(17.58%)
Secondary (104)	4(3.84%)	0	2(1.92%)	81(77.88%)	17(16.34%)
Higher secondary (22)	3(13.63%)	0	0	16(72.72%)	3(13.63%)
Graduate (5)	0	0	0	4(80%)	1(20%)
Post graduate (2)	1(50%)	0	0	1(50%)	0
Income status					
Low (111)	9(8.10%)	1(0.9%)	2(1.8%)	86(77.47%)	13(11.71%)
Middle (292)	13(14.13%)	3(1.02%)	3(1.02%)	220(75.3%)	53(18.15%)
High (16)	1(6.25%)	0	0	9(56.25%)	6(37.5%)

Discussion

A study in Southern Laos found was conducted to evaluate differentials in the prevalence of anemia among non-pregnant, ever-married women was 41.3% (urban: 37.2 % and rural: 43.5 %).[2] Anemia was less pronounced among non-pregnant women using contraception ($p < 0.05$), among non-pregnant, ever-married women of reproductive age in Bangladesh, and to examine associations with demographic, socioeconomic, and nutritional factors. Data for this cross-sectional study were taken from Bangladesh Demographic and Health Survey (BDHS).[3,6]

From this study it was found that of all 346 (82.6%) non-lactating mothers and 73(17.4%) lactating mothers. 88 (28.0%) were suffering from at least one disease. A study was conducted to evaluate the prognosis of chronic and acute diseases. This remains similar to a national data from Mexico (Health needs and health service use by older-than-60-year-old beneficiaries of the Mexican Institute of Social Security (IMSS)).[2]

This study was found that, 318 (75.9%) perform moderate physical activity, 56 (13.4%) perform sedentary physical activity, and 44 (10.5%) perform high physical activity. In this study it was found that, 226 (53.9%) were occasionally under mental pressure, 149 (35.6%) were not at all under mental pressure and 44 (10.5%) were very stressful. It was also found that, 292 (69.7%) were in middle income group, 111 (26.5%) were in low income group and 16 (3.8%) were in high income group. And 173 (41.3%) were between the ages of 21-30, 110 (26.3%) were between the ages of 31-40, 88 (21.0%) were less than 20 years and 48 (11.5%) were more than 48 years.

According to family size 273 (65.2%) were medium size family, 79 (18.9%) were small size family and 67 (16.0%) were large size family. In this study, 205 (48.9%) has 2-3 children, 153 (36.5%) has 0-1 child, and 61(14.6%) has more than 3 children. It was also found that, 198 (47.3%) were normal weight, 136 (32.5%) were overweight, 60 (14.3%) were obese, 23 (5.5%) were underweight and 2 (0.5%) was morbidly obese.

A study was conducted by the National Nutrition Monitoring Bureau (NNMB) which shows the chance of overweight/obesity and abdominal obesity was significantly ($P<0·01$) higher among women aged 40-60 years, those belonging to Christian religion. [17-21]

A study was conducted in the Bangladesh that examined the patterns, prevalence, and socioeconomic factors influencing the ever- women of being underweight and overweight over normal weight. Data used in this study has been extracted from Bangladesh Demographic and Health Survey. The results confirmed the co-existence of underweight and overweight among women as the prevalence of underweight, normal weight, pre-overweight, overweight, and obesity was 24.1%, 46.7%, 12.8%, 13.5%, and 2.9% respectively.[19] In this

study it was found that, 198 (47.3%) were normal weight, 136 (32.5%) were overweight, 60 (14.3%) were obese, 23 (5.5%) were underweight and 2 (0.5%) was morbidly obese. Among the primary educated women 83 (41.70%) were overweight, 77 (38.69%) were normal weight, 23 (11.5%) were obese, 10 (5.02%) were underweight and 1 (1.14%) was morbidly obese by BMI. And among the middle income group 146 (50%) were normal weight, 93 (31.53%) were overweight, 43 (14.72%) were obese, 2 (0.01%) were morbidly obese and among the low income group 13 (11.71%) were underweight, 48 (43.24%) were normal, 35 (31.53%) were overweight, 15 (13.51%) obese by BMI. The study found that, among the middle income group 220 (75.34%) were normal, 53 (18.15%) were obese, 13 (14.13%) were severely malnourished and 3 (1.02%) were mild malnourished and moderate malnourished by MUAC.

Conclusion

Findings of this study showed that most of these women of reproductive age had better nutritional status with normal BMI (kg/m^2) and MUAC. Larger family size, lower educational level and financial status compounded by chronic diseases had an influence on MWRA's poor nutrition. This study suggests that strategies for preventing both underweight and overweight/obesity simultaneously among reproductive women need to be implemented considering regional context and their socioeconomic status (SES).

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Original Article

Outcome of Lateral Pancreato-Jejunostomy in Chronic Pancreatitis- Our Experience in two tertiary care hospitals

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Abstract

Background: Abdominal pain, one of the major symptoms of chronic pancreatitis, is believed to be caused by obstruction of the pancreatic duct system by stones or strictures. This results in increased intraductal pressure and parenchymal ischemia. Surgical decompression of the duct and ductal drainage can achieve best pain relieve and slow the progression of the disease. We awant to share our experience of surgical drainage of pancreatic duct in chronic pancreatitis in our hospital.

Methodology: We studied 37 cases of Chronic Pancreatitis operated in two hospitals between January 2010 and January 2019. Patients were selected with pre-operative ultrasonography, MRCP. Dilatation of the main pancreatic duct by at least 7 mm proximal to the obstruction were recruited for operation. We did Roux-Y lateral pancreato-jejunostomy (LPJ) for patients with obstruction of the pancreatic duct due to stricture or intraductal stones or both. We did additional distal pancreatectomy in case of stone in the tail area for 2 cases. We did one Frey's operation for stone and fibro-calcification of the head. We evaluated their symptoms, their duration, post-operative hospital stays and complications following surgery. We studied their pain control, recurrence and mortality during this period. We followed these patients for more than 5 years.

Results: We found 28 out of 37 patients got complete remission of the abdominal pain with no progression of their disease. Ultrasonic evidence of chronic pancreatitis has improved or resolved. Ductal diameter has decreased. They did not develop diabetes nor malabsorption. One had a recurrence of stone in the head within a year. Four died during this follow-up period. One died 2 months after LPJ due to massive gangrene of the small intestine distal to LPJ and jejuno-jejunostomy and subsequent short bowel syndrome. Other two developed carcinoma of the pancreas within one year and six months after LPJ respectively. Rate of pain free survival is about 75% and recurrence is 5%. Mortality during this follow up period is about10%

Conclusion: In our small series, we found that surgery if done early, can have good remission of abdominal pain and can slow the progression of chronic pancreatitis in majority of patient. Patient with chronic calcific pancreatitis and diabetes are likely to have unfavorable outcome even after decompressive surgery.

Key words: Pancreatic duct obstruction, Pancreatic duct stone, Lateral Pancreato-jejunostomy.

Introduction

Chronic pancreatitis is a progressive inflammatory disease of varied etiology characterized by destruction of pancreatic parenchyma and subsequent fibrosis.[1] There is an increased incidence in recent years. Its pathogenesis remains unknown. Alcohol is a major etiological factor in most industrialized countries.[2] Pancreatic duct calcifications are common in patients with chronic pancreatitis, and up to 90% of patients with alcoholic chronic pancreatitis have such stones during long-term follow-up.[3] Pancreatic duct calculi can lead to an outflow obstruction of the pancreatic duct, resulting in upstream hypertension, increased parenchymal pressure, and ischemia. Pain is the predominant symptom in most patients with chronic pancreatitis.[4] The etiology of pain is multifactorial, although ductal hypertension caused by stones or strictures is believed to be the major cause of pain in patients with chronic pancreatitis.[4-9] Removal of pancreatic duct stones decreases the pain. Additionally, restitution of pancreatic duct flow improves physiological function of the pancreas.[10-12]

A pancreatic duct obstruction due to main pancreatic duct stones can often be relieved by surgical or

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Received Date : 12 October, 2019
Accepted Date : 25 December, 2019

endoscopic techniques or extracorporeal shock wave lithotripsy (ESWL). Removing pancreatic stones endoscopically is less invasive compared to surgery but is more likely to be successful when the stone burden is small and located only in the main duct.[13-15] ERCP based extraction is a critical treatment for pancreatic duct stone. There is high possibility of acute pancreatitis following pancreatic duct cannulation.[8-10] Moreover, endoscopic removal has limitation in dealing with huge load of impacted stone and pancreatic duct stricture. Endoscopic extraction is also not able to achieve adequate drainage of the duct in a situation of multiple duct stricture. Pancreatic cancer may further complicate long standing disease, which should be treated by pancreatic resection.

Different surgical procedures can be chosen according to the location of the stones in the pancreatic duct. If the stones are mainly located in the body of the pancreas, they can be treated with Puestow-Gillesby procedure (pancreatico-jejunostomy), which is often used in patients with significant dilation of the pancreatic duct. Though Puestow –Gillesby first described this operation, but Partington –Rochelle modified this operation and performed long length LPJ. This operation is still known as Puestow operation. Resection of the tail of the pancreas with or without splenectomy is done if the stones are located in the tail of the pancreas. Sometimes the stones are found in the head of the main duct of the pancreas. In that case excision of the head is done with preservation of the duodenum and CBD. This is called Beger's procedure. Excision of the duct of Wirsung and Santorini in the head with long length LPJ is called Frey's operation. Some extreme cases require pancreato-duodenectomy (Whipple's procedure).

Pathophysiology

Pancreatic juice is supersaturated with calcium. Calcium is kept in solution by HCO_3, citrate, and pancreatic stone protein (PSP), and these factors are lower in patients with chronic pancreatitis.[16] Alcohol and chronic pancreatitis decrease the secretion of PSP, which causes the crystallization and deposition of calcium carbonate and the formation of stones.[17] (Fig.-8). Pancreatic duct strictures cause stagnation of pancreatic juice and enhance the formation of pancreatic stones. Hypercalcemia may cause a rise in the level of calcium in pancreatic juice, which accelerates the formation of pancreatic stones in patients with hyperparathyroidism. Calcium precipitates as $CaCO_3$. These stones are radio-opaque and readily visible on plain x-ray unlike gall stone. (Fig-1)

Fig-1: *Stones are seen in the head, body and tail of the pancreas*

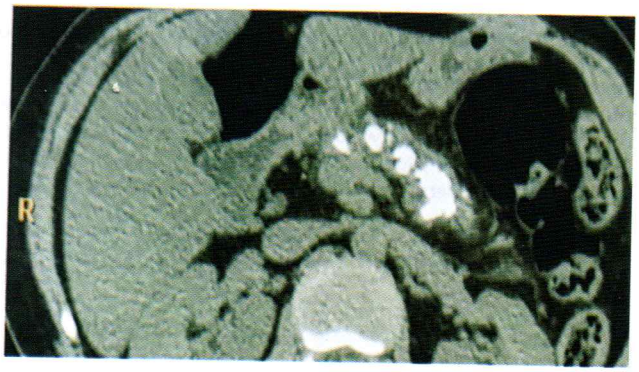

Fig-2 :*Stones are seen in the MPD on limited CT*

Fig-3: *Stones are seen on MRCP*

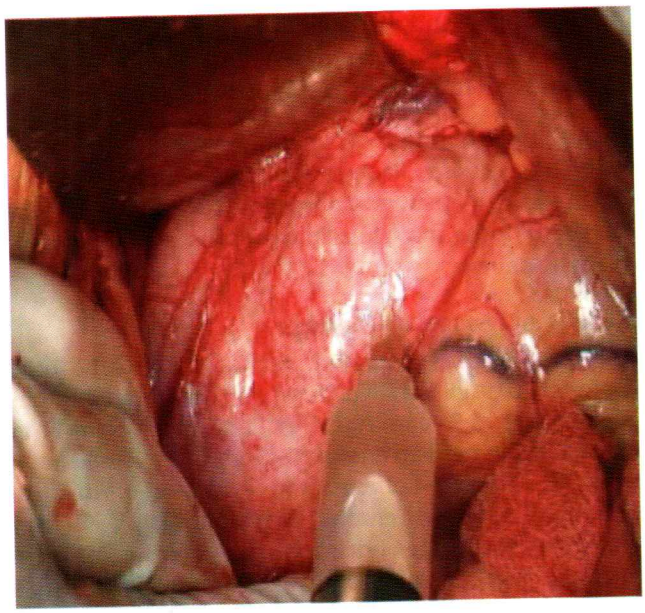

Fig-4: *Obstructed MPD is located by aspiration at operation*

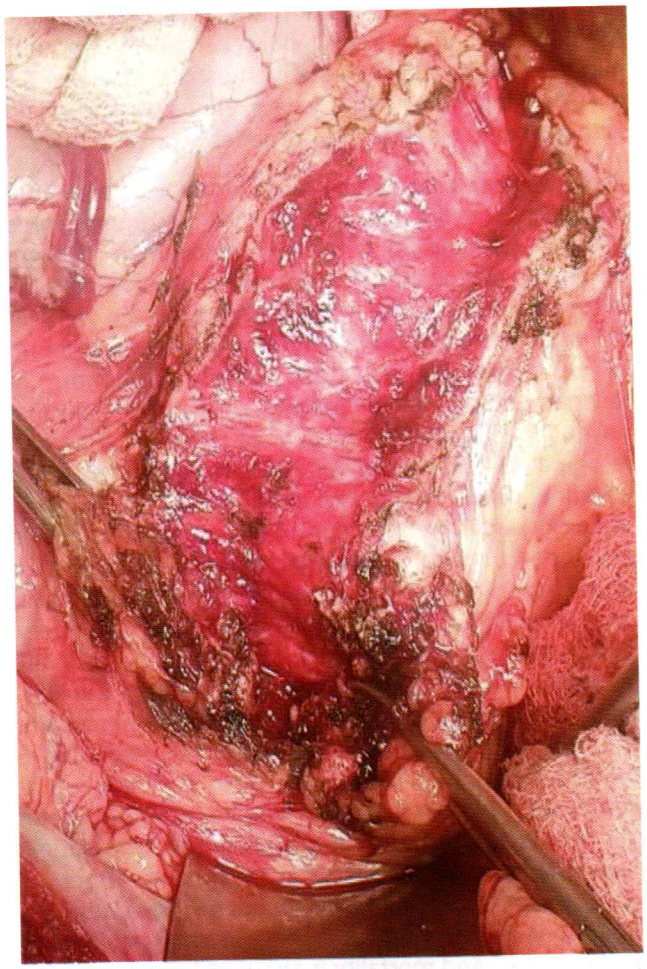

Fig-5: *Pancreatic duct is laid open*

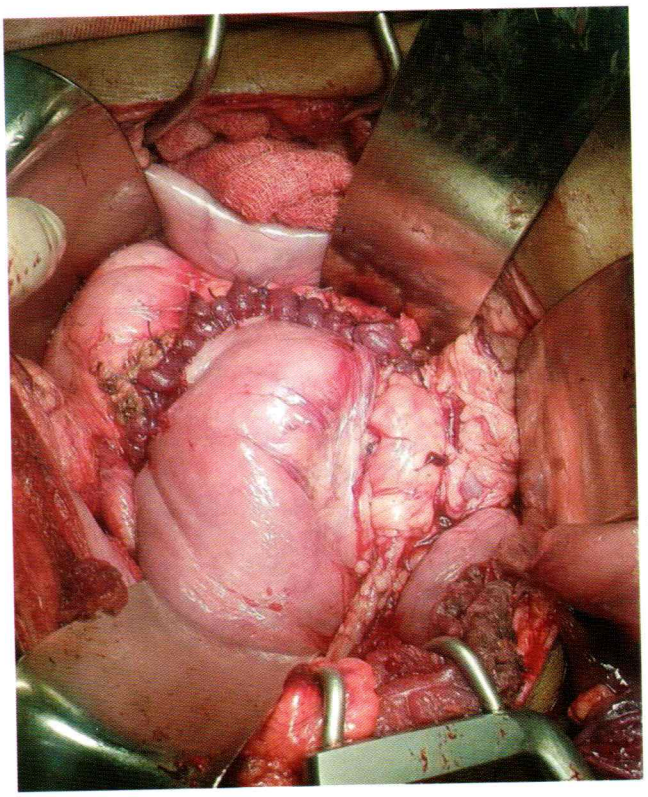

Fig-6: *Pancreato-jejustomy*

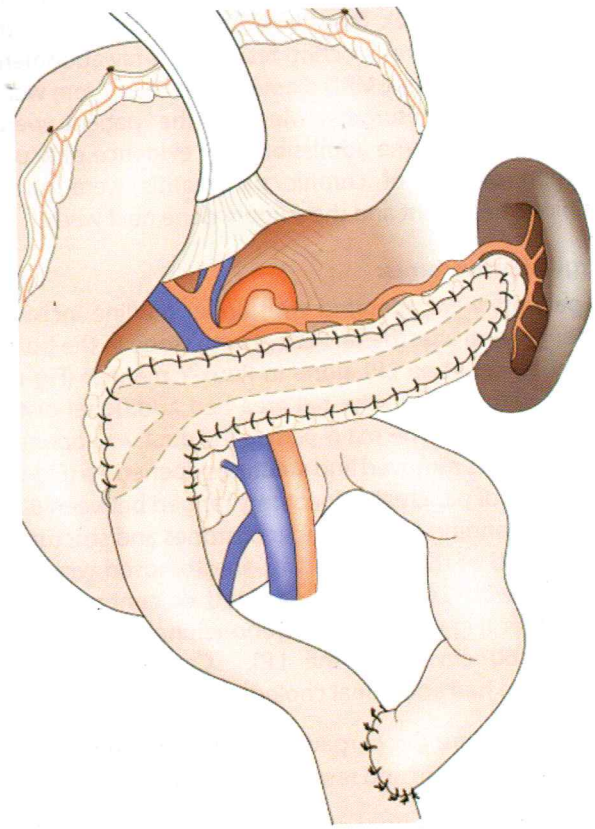

Fig-7: *LPJ*

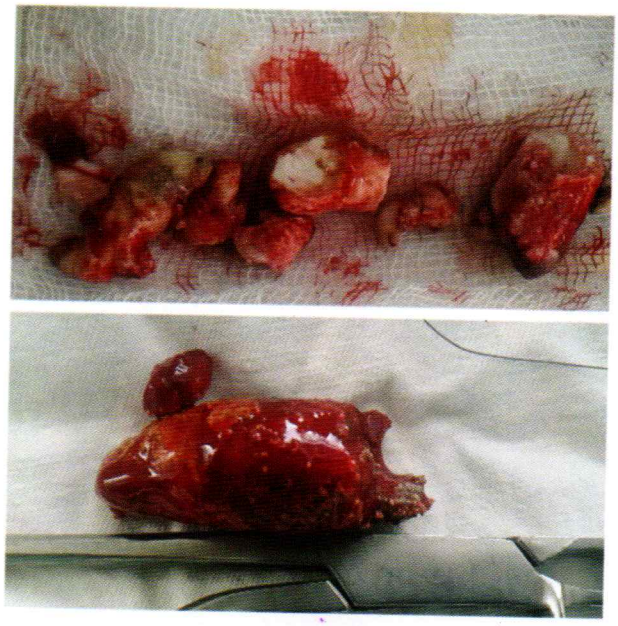

Fig-8: *Pancreatic stones*

Methodology

Set ups and Patients:

Any patient diagnosed by Ultrasonography with dilated MPD with or without pancreatic duct stone were recruited for the study (Fig-2). They were further evaluated with CBC, Creatinine, Liver function test, plain X-ray abdomen, MRCP, serum calcium. MPD diameter less than 7 mm were not selected for surgery. Most of the patient were operated in the same admission. Any evidence of acute infection on top of chronic pancreatitis were given antibiotic treatment and the surgery done next week.

Surgical procedures:

All patients were operated with upper midline incision under general anesthesia. Patient with stone in the body and head area had LPJ alone in Roux-Y manner (Fig-6). Patient with stone in the tail area had additional distal pancreatectomy. The main pancreatic duct was opened until all stones removed and strictures opened up (Fig-5). The length of pancreato-docotomy ranged between 6 to 10 cm depending upon number of stones and strictures. Roux-Y limb of the jejunum was anastomosed with the pancreas with 2/0 vicryl interrupted or continuous in single layer (Fig-6&7) Roux-Y jejuno-jejunal anastomosis is done 60 cm down the LPJ. Concomitant CBD obstruction had additional choledoco-jeunostomy.

All patients were discharged on complete remission of post-operative pain and resumption of normal diet.

Follow up- Patients were scheduled to be seen one week after discharge and 6 weeks and 6 months and 2 years after surgery. They were evaluated for persistent pain, malabsorption and diabetes. USG of the abdomen and plain X-ray were done to see the condition of the pancreas and recurrence of stone.

Follow up treatment- Tramadol or paracetamol were given as analgesic**.** Pancreatic supplement enzyme was given only if patient complaints of steatorrhea or persistent loose stool. Insulin therapy was continued for diabetic patient.

Results and Follow up Findings

Out of 37 cases operated between Jan 2012 until October 2019. 28 are alive. Duration of symptoms ranges from 7 days to 5 years. Age of patient ranges from 11 to 60 years with median age of 31 years. Male: female ratio was 2:3. Sixteen patients had evidence of mild to moderate degree of chronic pancreatitis on USG. They had neither diabetes nor malabsorption. 8 cases were diabetic and had symptoms of malabsorption such as steatorrhea and weight loss. All of them required pancreatic enzyme supplement and insulin therapy. The average diameter of the main pancreatic duct (MPD) was 13.8mm and ranges from 7to26mm. The mean operation time for pancreato-jejunostomy alone was one hour and 45 minutes ranging from 1 hour 25 min to 2 hour35 minutes. Median post operative hospital stay was 8.5 days ranging from 7 to 13 days. There was no death within 30 days of surgery in our series.

There was one case of recurrence in the head area after one year. She did not require further surgery. Three patients died during follow up period. Two of them developed malignancy. One developed adenocarcinoma of the pancreato-jejunal anastomotic site within one year of surgery detected on re-laparotomy, which was found to be inoperable. He died within 6 months of re-laparotomy. Second patient developed intestinal obstruction within 3 weeks of surgery. He was re-operated and found to have gangrene of small intestine distal to the LPJ anastomotic site. He had undergone massive resection of jejunum and ileum. He developed pancreatic fistula postoperatively. His fistula closed spontaneously. But he died of short bowel syndrome within two months of the second surgery. Third patient developed carcinoma in the head of the pancreas within 6 months of LPJ. Palliative choledocho-jejunostomy was done with another loop of the jejunum to relieve his jaundice. He died after 3 months. Other 28 patients were seen on follow up or contacted over phone and found to be without diabetes and not requiring pancreatic supplement. One patient needs regular analgesic for pain control. Other 15 patients are free from pain and do not need analgesic. So, rate of pain free survival in our series in a10 year follow up is about 75%. And mortality is about 10%. Recurrence of stone is about 5%.

Table-1. Pathology, procedure done and outcome

Per -operative findings	Operation done	Outcome during follow up period
32 had Stone in the body	Puestow operation Roux-Y lateral pancreato-jejunostomy (LPJ)	28 are alive no pain 3 died (3-Ca pancreas and one-short bowel syndrome) 1 recurrence in the head
1 Fibro calcification and stone in the head of the pancreas	Frey's operation and LR- LPJ	Alive
2 Stone in the head, body and tail	Distal pancreatectomy and LPJ	Alive
2 MPD stone and obstructed CBD due to peri-ampullary stricture.	Choledoco-jejunostomy and LPJ	Alive

Discussion

Diagnoses and evaluations of chronic pancreatitis and pancreatic stones are done by plain x-ray examinations, ultrasonography, computed tomography (CT), endoscopic retrograde cholangiopancreatography (ERCP) and magnetic resonance cholangio- pancreatography (MRCP). As the first choice for diagnosis of the disease, ultrasonography is economical. MRCP can precisely reveal pancreatic duct stones, pancreatitis, pancreatic tumor, pancreatic cyst. MRCP is of instructive significance for treatment, especially surgical therapy. MRCP has become the best method for the diagnosis and treatment of pancreatic duct stone in recent years. Due to non-availability and financial reason, we solely depended on plain x-ray and ultrasonography for selection of our patients. Later we started doing CT scan before surgery. We found CT is very helpful as pre-operative investigation before LPJ.

Different surgical procedures can be chosen according to the location of the stones in the pancreatic duct.7 When the stones are mainly located in the head of pancreas, endoscopic drainage and removal of the stones is usually the first choice of treatment. If it fails, surgical procedure should be applied. If the stones are mainly located in the body of the pancreas, they can be treated with Puestow-Gillesby procedure or Lateral pancreato- jejunostomy (LPJ), which is often used in patients with significant dilation of the pancreatic duct. Resection of the tail of the pancreas or combined resection with or without splenectomy is done if the stones are located in the tail of the pancreas. Sometimes the stones are found in the head of the pancreas. Local excision of the head and lateral pancreato-jejunostomy (LR- LPJ) becomes the choice of treatment. This is called Frey's operation.

We performed the Partington-Rochelle modification of LPJ in all cases. One of our cases had additional spleen preserving distal pancreatectomy for presence of stone in the tail area. He had pain in the left hypochondrium. We did Frey's operation for one patient. This patient had stone and severe fibro-calcification of the head.

We did simultaneous Choledochojejunostomy in two of the patients for concomitant CBD obstruction due to severe fibro-calcific stricture at the lower end of the bile duct. Ths. patient came with severe jaundice. Serum bilirubin was about 16 mg/dl. CBD and pancreatic duct were anastomosed with the Y limb of the jejunum in a series manner. Jaundice came down to 3 mg within a week and completely cleared in two weeks time.

Two patients died of adenocarcinoma of the pancreas at the anastomotic site. This was detected on laparotomy one year and 6 months respectively after LPJ. We did not take biopsy of the pancreas at the time of first surgery nor we could do CT scan. So, it is difficult to know if this patient had malignancy of the pancreas at the time of LPJ. That is why routine biopsy of the pancreas, if possible frozen section should be done for all patient at the time of LPJ. Another surprising finding is that both these patients had hugely dilated MPD, highest in our series 26mm each. Probably this suggests longer duration of obstructed duct in chronic pancreatitis and subsequent development of malignancy. Pre-operative CT could have helped in detection of pancreatic cancer.

The third mortality was due to massive intestinal resection and short bowel syndrome. This patient had a biliary stent and pancreatic duct stent, which were inserted 3 months before the surgery in an Abu Dhabi hospital. These stents were all removed during LPJ. He developed acute intestinal obstruction within 3 weeks after surgery. Re-laparotomy was done and massive

gangrene of the small bowel distal to the pancreato-jejunostomy was seen and resection done. Later he developed short bowel syndrome and died 3 months after the second surgery. As none of our patients developed this type of complication in postoperative period, we think that pancreatic stent related infection or toxicity was responsible for this massive gangrene of the intestine. So, we recommend that all stents should be removed sometime before the surgery endoscopically and should be treated with antibiotic. Moreover, this patient was severely diabetic. He had severe degree of chronic pancreatitis and malabsorption, requiring pancreatic supplement prior to operation.

Because the pathogenesis of pancreatic stone is unknown, improvement of symptoms is a major goal. However, the management of pancreatic duct stones continue to evolve, and it is dependent on the available facilities.[18] Treatments including surgical, endoscopic techniques, laser lithotripsy, extracorporeal shock wave lithotripsy (ESWL), balloon stenting, and medications are effective.[18] The success of endoscopic intervention as a less invasive procedure in the treatment of pancreatic stones is partly due to the improvement of endoscopic techniques. However, pancreatic duct stones approximately 5 mm or greater are often not amenable to conventional management with sphincterotomy, stricture dilation, or stone retrieval with basket.[19] In this setting, Salahis been found to be a very successful modality which historically had been used exclusively in the treatment of renal stones, with an ability to fragment large stones.[20]

In one study endoscopic therapy and surgical drainage was compared. They found that complete or partial pain relief was achieved at the end of follow-up in 32% of patients in the endoscopy group and 75% of patients in the surgery group ($P = 0.007$).[21] Compared to the endoscopic approach, surgical risks are often the major concern in surgical intervention for pancreatic stones, which may be associated with operative morbidity and mortality. Fortunately, unacceptable procedure-related risk of surgical intervention seems to be not higher than that of endoscopic techniques, laser lithotripsy, and ESWL.[22]

Conclusion

Successful removal of pancreatic duct stones and drainage of the pancreatic duct can reduce pain and improve pancreatic function in majority of patients. Patient with chronic calcific pancreatitis and diabetes are unlikely to have favorable outcome even after decompressive surgery. CT scan, MRCP or frozen section biopsy should be done to exclude pancreatic carcinoma before doing decompressive surgery.

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Review Article

Pregnancy Induced Acute Kidney Injury (AKI) and Its Consequences: An Updated Review!

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Introduction

Acute kidney injury (AKI) is a heterogeneous syndrome in pregnant women and is caused by multiple etiology. AKI that occurs during pregnancy or in post-partum period remains a life-threatening obstetric complication. This pathological obstetrics status induces significant maternal and fetal morbidity and mortality. Although pregnancy related acute kidney injury PR-AKI has decreased dramatically over the last three decades in developing countries; the data from developed countries are more nuanced. While occurrence of pregnancy related acute kidney injury PR-AKI declined in developed countries in only 1–3% due to utilization of better antenatal care (ANC) and rare cases of septic abortion, though rarely.[1-3] However, high rate (4.2–15 %) was reported from developing countries mainly due to limited inaccessibility of ANC & emergency Obs healthcare facilities. [5-7]

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Received Date : 06 October, 2019
Accepted Date : 15 December, 2019

Overall Occurrences of AKI -AKI

In recent years, there is a significant decline in the incidence of patient requiring dialysis which is fewer than 1 in 20,000 pregnancies.[2] **PR-AKI** mainly occurs due to obstetrical complications, principally more like- septic abortion, abruptio placentae, uterine hemorrhage, intrauterine fetal death (IUD), and puerperal sepsis, notably, these obstetric complications may occur even in women with previous healthy kidneys.

Current state of PR-AKI

With the gradual improvement in ante- and post-natal care, incidence of **PR-AKI** has steadily been declined from 22% in 1960s to 9% in 1980 in India, yet went down further to 3–7% in 2000.[8,9] However, the levels continue to remain higher in developing countries than the levels seen in developed countries (1 in 20,000 pregnancies), sepsis and hemorrhage account for >50% of cases of Pregnancy related AKI **PR-AKI**[5] in contrast, chronic hypertension, renal disease and preeclampsia and eclampsia are important causes in developed countries.[6] Incidence of PR-**AKI** has decreased in the developed countries to only 1-2.8% due to better antenatal care and rare cases of septic abortion in these countries.[2,3] Thus, the afore-mentioned literature evidences that **PR-AKI** is not that easy to bring down neither its prevalence nor the incidence which remains truer for Bangladesh like in other lower SES country. That is what has been tried to describe in this updated review.

Diagnostic criteria of AKI in pregnant women PR-AKI

A creatinine level of ≥1 mg/dl or a rapid rise (by definition in 48 h) of 0.3 mg/dl above baseline should be investigated for evidence of AKI. This information is important because serum creatinine and blood urea nitrogen of 1.0 mg/dl and 13 mg/dl, respectively, would

be considered normal in a nonpregnant individual but reflect renal impairment in a pregnant woman. Besides the diagnosis of **PR-AKI** is based on increase in serum creatinine.[1]

Following criteria can be considered for diagnosis of AKI in pregnant women: -

1. Sudden increase in serum creatinine ≥1 mg/dl,
2. Oliguria/anuria, and
3. Require dialysis [10]

The definitions can range from an increase in the serum creatinine to the need for dialysis. This is further confounded by the physiologic decrease in serum creatinine seen in pregnancy. The frequently cited **RIFLE** (Risk, Injury, Failure, Loss and End stage)[11] and the **AKIN** (Acute Kidney Injury Network) criteria[12] for the non-pregnant population have not been well validated in pregnancy. More recent obstetric studies, however, have begun to use these classifications. For example: having a high RIFLE class predicted higher mortality in obstetric patients in an intensive care unit.[13] Investigators from the Mayo Clinic, using the **AKIN** criteria, discovered that most of the patients belonged to the AKIN stage 1 category, with only transient increases in serum creatinine.[14] In addition, these women with AKI tend to have comorbid conditions such as hypertension, diabetes or chronic kidney disease, and pregnancy-related complications such as, preeclampsia/**HELLP** (Hemolysis, Elevated Liver function tests, Low Platelets), hemorrhage or infections. Investigators will be better able to assess whether they can be used to risk-stratify obstetric patients as more studies utilize these criteria.

Pregnancy Outcomes in PR-AKI

Between 1998 and 2009 in the United States death rate during delivery hospitalizations was 17.4% and 31.5% amongst post-partum hospitalizations in women with AKI of any etiology.[15] Hypertensive disorders of pregnancy are an important contributor to the burden of AKI in pregnancy, preeclampsia and HELLP syndrome particularly.[16] Along with maternal complications **PR-AKI** also has a significant impact on fetal morbidity and mortality. Mortality rate is estimated to be 23.5–38% among babies born to women with **PR-AKI.**[17] Obstetric complications are a significant contributor to renal injury during pregnancy. **PR-AKI** is attributed to rare obstetric complications, such as atypical hemolytic uremic syndrome, thrombotic thrombocytopenic purpura and acute fatty liver of pregnancy.[16]

Lack of antenatal care (57%) & history of traditional birth attendants TBA (Dai) assisted home delivery as compared to 6 (14%) cases with adequate antenatal care was observed in an observational and prospective hospital-based study at a tertiary care hospital in Hyderabad for one year conducted.[17] Clinical spectrum of pregnancy related ARF showed APH in 6 (14%) cases, PPH in 9 (24%) cases, septic abortion and puerperal sepsis and DIC in 13 (31%) cases, IUD in 6 (14%) and preeclampsia / Eclampsia in 5 (12%) cases. 30 patients (71%) received hemodialysis where 12 (29%) did not require dialysis. Commonest clinical diagnosis was ATN in 23 cases (55%) with complete recovery. Acute bilateral renal cortical necrosis was seen in 9 (21%) cases and 2 (5%) patients had patchy cortical necrosis. Overall morbidity was 19% and mortality 26%. [22]

Golani et al.2008 conducted a study to evaluate the contributing factors and to assess the frequency of cortical necrosis.[18] In this prospective study, the incidence of pregnancy-related ARF was 9.06%. Puerperal sepsis was the most common etiological factor in 61.42% of the patients. Preeclampsia accounted for 28.57% of ARF. Two-thirds of patients recovered with dialysis and supportive care. The incidence of biopsy proven renal cortical necrosis was 14.8%. The incidence of renal cortical necrosis was 28.57% in the early pregnancy group and 10.71% in the late pregnancy group. Approximately 20% cases occurred due to post-aborted complications in early pregnancy and 80% following complications in late pregnancy. Post-aborted sepsis was the most common precipitating event for renal cortical necrosis. Maternal mortality was 18.57%. Sepsis accounted for a majority of deaths (61.53%).[18]

Long-Term Consequences of PR-AKI

Though AKI was considered as a reversible syndrome previously, recent studies shows that AKI may increase risk of developing CKD resulting in kidney damage or requiring dialysis even after delivery.[16,19] A meta-analysis on **PR-AKI** reported that 2.4% of women with AKI during pregnancy progressed to ESRD and needed long-term dialysis.[20] A study showed that 21.2% patients with HELLP syndrome and AKI for up to 1 year of postpartum required dialysis. Women with HELLP syndrome are more prone to need dialysis and remain hypertensive in the post-partum period.[21,22] Generally, 82.7-89.4% of the patients recovers completely however long-term data regarding dialysis in women with a history of AKI in pregnancy is insufficient. Absolute risk of ESRD after preeclampsia is low, however, preeclampsia in one or

more pregnancies is a risk factor for development of long-term renal dysfunction.[15] According to some studies several years (7.2±5.2 year) following a pregnancy complicated with aHUS 53% of patients had progressed to ESRD[23] whereas poor renal outcome in patients with pregnancy associated aHUS were reported in other studies where 21–36% of patients either developed CKD received a renal allograft, were on dialysis or developed ESRD. [24]

Reports on similar study on PR-AKI

18 cases of pregnancy-related acute renal failure (PR-ARF), 9% of the total number of ARF were observed where mean age of the women was 32 years (22-40 years) in a study conducted between 1982 and 1992 by Alexopoulos et al.1993.[24] 61% of the cases were due to uterine hemorrhage and preeclampsia/eclampsia which causes ARF significantly. Patchy renal cortical necrosis was suspected in 2 cases whereas signs of disseminated intravascular coagulation (DIC) or microangiopathic hemolytic anemia were present in 6 (33%) and 9 (50%) cases, respectively. Ten women required hemodialysis; and 6 of them, additional plasma exchange sessions. Five patients (28%) died during the acute phase of the illness, mainly due to brain damage, hepatic failure, and sepsis. Among the survivors, a complete (61.5%) or partial recovery (23.1%) was usually seen, but irreversible renal failure was recorded in 2 cases with postpartum hemolytic uremic syndrome (HUS). [24]

Acute renal failure occurred in 53.3% cases in early part of their pregnancy, whereas in 46.7% cases in later of the pregnancy.[25] Fifty three percent patients had not received any antenatal visit, and had home delivery, 33.4% patients had delivered in hospitals but without antenatal care and 13.3% patients received antenatal care and delivered in the hospitals. Anuria was observed in 38.3% cases, remaining 61.7% cases presented with oliguria. Septicemia was present in 41.7%, hypertensive disorder of pregnancy in 33.3%, hemorrhage in 13.3%, abortion in 8.3%, hemolysis elevated liver enzymes low platelets count (HELLP) syndrome in 1.67% and disseminated intravascular coagulation in 1.67%. 61.7% patients were not dialyzed, 55% recovered normal renal function with conservative treatment. Complete recovery was observed in 75% patients, 8.4% patients developed irreversible renal failure. Maternal mortality was nine 15% and fetal loss was 41.7%.[25]

Obstetrics and Gynecology Department of the Institute of Kidney Disease and Research Center, Ahmedabad, India from January 2009 to January 2011.[26] The age range was 19-38 years (mean 26 ± 3.8). The first trimester, second trimester and puerperal groups comprised of 8%, 50% and 42% respectively.

Hemorrhage was the etiology for AKI in 30%, APH in 20% and PPH in 10% patients. 22% patients had lower segment caesarian section (LSCS) while 78% patients had normal vaginal delivery. In 40% patients, puerperal sepsis was the etiological factor, while pre-Eclampsia, Eclampsia and HELLP syndrome accounted for 36% patients. 4% patients had disseminated intravascular coagulation on presentation while 2% patient was diagnosed with hemolytic uremic syndrome. Maternal mortality was 12%. Of the 88% surviving patients, 42% had complete recovery of renal function, 16% patients had partial and 30% patients required dialysis on a long-term basis. [26]

Reports on Similar Studied research conducted in other institutions/ our country

An observational study on-" Association of Acute Kidney Injury in Complicated Pregnancy and its Outcome after 28 weeks of Pregnancy" is in progress which is carried out by "Ad-din women's Medical College and Hospital" under supervision of Ad-din research unit (ARU).

In Mymensingh Medical College Hospital (MMCH) from April 2011 to March 2012, only one prospective case control study was done on- Outcome of Pregnancy Related Acute Kidney Injury Observed in a Tertiary Care Hospital. Another prospective observational study was done to observe the status of ARF in pregnancy in Nephrology Department of Dhaka Medical College during 2007.

Conclusive Remarks

Pregnancy induced AKI is a deadly situation which significantly causes both maternal and fetal mortality. Even though the rate is deteriorating in the developed countries, still common in developing countries like Bangladesh (21.6%). Maternal outcome of Pregnancy related acute kidney injury is not acceptable in Bangladesh due to limited data availability on the occurrence, demography, etiology and outcome of **PR-AKI** of Bangladeshi population in complicated pregnancy. Around 21.7% pregnancy induced AKI patients usually died while 6.7% did not recover at the time of hospital discharge. So, we can conclude **PR-AKI** as a critical situation associating with the worst prognosis. More studies should intend to find out the

occurrence, characteristics such as demographic characteristics, clinical parameters, etiology and outcome of **PR-AKI** in different clinical settings in a tertiary care hospital of Bangladesh. Such study results will help to plan better prevention of **PR-AKI** to reduce the burden of unwanted maternal and fetal death.

Bottomline

Pregnancy related AKI (**PR-AKI)** stands a critical clinical condition towards fatal prognosis, unless intervened. Since, AKI remains a reversible condition it can be well prevented utilizing in-time proper therapeutic interference, appropriate counselling and regular apposite follow up for a prescribed time frame.

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Short Communication

'Preventing Vertical Transmission of Hepatitis B Virus (HBV) can yield HBV free Future Generation, and It Requires Effective Marital Law Support!!

Narayan Krishna Bhowmik[1], Sardar Samiul Islam[2]

Dear Editor,

As we know that native Hepatitis B viral infection has 4 stages, like: Immune tolerance, immune clearance, immune control and immune escape. Based on this fact, we plan to write this article for our mass people. During my observation in recent past, 1 have found many pregnant women who were vaccinated against hepatitis B after HBsAg negativity, developed HBV infection.

I have seen many patients who had chronic HBV infection but their mothers intrigue HBsAg negative on screening. We convinced our patients to do necessary tests for their respective mothers to know whether they had HBV infection in the past by screening anti-HBc to ascertain vertical infection among those patients who had chronic hepatitis B infection.

Based on a series of observation on seven adult persons (4 males, 3 females) possessing high social status having no history for risky behaviors nor history of blood transfusion but remained HBsAg+. I have conducted a short-term survey on these persons. Since all of them remained HBsAg positive beyond next 6 months period, this fact compelled me to go for checking their respective mothers' immune status against HBV.

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Received Date : 09 October, 2019
Accepted Date : 15 December, 2019

I have observed few cases of HBV viral infection in late pregnancies which motivated me to administer antivirals to these pregnant women- which prevented vertical transmission and early vaccination failure against HBV in them.

It is well known that, T-Helper-1 (Th^1) is suppressed during pregnancy which may cause transient reactivation of HBV infection causing vertical transmission. So, HBV infection can be prevented by screening all pregnant women by checking HBV Immune status and thus providing treatment accordingly, vaccination against HBV, and administering antiviral drug to those who had past HBV infection[1,2]. We can, thus, assure a HBV-free next generation, hopefully.

- Undoubtedly, mother to child transmission (MTCT)/vertical transmission is preventable but awareness to prevent such catastrophic infection, a premalignant state, is not emphasized much. Lack of treatment modality to prevent MTCT of hepatitis is available and cost effective too. Towards eradication of HBV-treatment approaches and status of clinical trials remain affirming. To do so to make it's a reality of HBV eradication by cutting vertical transmission.
- While birth dose (BD) vaccination + targeted Hepatitis B Immuno-Globulin (HBIG). Introduction of maternal antiviral prophylaxis with Anti-HBc and sequential HBeAg testing remains a cost-effective yet essential approach. Moreover, in terms of effectiveness, the maternal antiviral prophylaxis with sequential HBeAg testing remains the intervention of choice. The analysis showed that elimination of HBV MTCT is achievable using maternal antiviral prophylaxis with both active and passive immunization.[3,4]

- Serologic testing for HBsAg in pregnant women is the most common screening strategy for HBV during pregnancy. Germline infection from the infected sperms and ova of the HBV carriers is a potential mechanism of in-utero infection. HBV DNA has been identified by in-situ hybridization with a gradient of infected placental cells from the maternal to fetal side, which supports intrauterine HBV infection as a mode of vertical transmission.[5-8]

- Hepatitis B virus (HBV) infection during pregnancy can pose a substantial risk to infants at birth. Perinatal transmission of HBV can occur if the mother acquired acute hepatitis B during late pregnancy or in the early postpartum period, or if the mother is chronically infected with HBV.[9]

- Acute and chronic viral hepatitis in pregnancy is common with most infections caused by HBV. The transmission routes vary and clinical suspicion is useful because the presentation of infection may range from asymptomatic infection to liver necrosis.[10]

- Universal screening in pregnancy is recommended by all professional organizations for HBV and by most of them for HCV. Bprophylaxis with Tenofovir reduces the rate of HBV vertical transmission. New options to treat, cure, and prevent viral hepatitis in women before and during pregnancy are essential.

Final Comment

Based on the aforementioned its and observational, my view is- there should be effective law to enforce marriage registrar (Theologian) to get approval from competent authority for safe marriage. Premarital health screening is characterized as directing examination for couples planning to wed; keeping in mind that the end goal is to recognize if there is any or damage with hereditary blood maladies, for example, sickle-cell anemia (SCA) and Thalassemia, and some infectious sicknesses, for example, hepatitis B, C and HIV "AIDS". This is to give restorative counsel on the chances of transmitting these diseases to the next generation later on, and to give choices and alternatives before prospective weds with the point of helping them get ready for a healthy, sound family, in future.

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Short Communication

Complications of Nd: YAG Laser Capsulotomy

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Abstract:

Aim and objective: 1. To study the intra and postoperative complications of Nd: YAG laser posterior capsulotomy. 2.To find out the incidence of complications.

Material and methods: This study was conducted in the Department of Ophthalmology of Ad-din Women's Medical college, 2, Bara Moghbazar, Dhaka from June 2015 to June 2018. 175 patients of 189 eyes with significant PCO. Before laser capsulotomy all patients were assess by routine slit lamp examination, IOP measurement and posterior segment examination done for every patient for exclusion of gross posterior segment pathology.

Nd: YAG laser capsulotomy was carried out under topical anesthesia. These patients were assessed for post laser visual acuity and complications in 1st POD after 7 days and 1 month with post laser routine medications and as per need of other related eye problems.

Result: Total 189 eyes of 175 patients were included in our study, including 72 males (41.14%) and 103 females (58.86%) [Table 3]. Range of age was 15 years to 87 years [Table 1]. Laser capsulotomy was done in one eye in 175 patients and in both eyes in 14 patients. Total number of eyes included in our study was 189. Range of energy used in our study was from 1 to 4.5 mJ. Complications were noted after YAG laser capsulotomy in 26 eyes (13.76%) though after taking maximum precaution for avoiding complications including pre laser slit-lamp examination, assessment of IOP, proper dilatation of pupil and power setting were minimum as per as possible.

Conclusion: The Nd:YAG laser capsulotomy is an effective ,safe procedure for the treatment of opaque posterior capsule which is unique and magical approach for improvement of vision and restoration of effective life style. Every procedure has some adverse effect, Nd:YAG laser capsulotomy also has some complications, but benefits are tremendous if we can go in proper way.

Keyword: Nd: YAG Laser Capsulotomy

Introduction:

Posterior capsular opacification is the most common visual impairment after cataract surgery, may be in small incision cataract surgery or modern technique by phacoemulsification. PCO is one of the most late complications of cataract surgery.[1] In one study the frequency of PCO after cataract surgery was 1.6%, 12.3% and 26.5% at 1,2 and 3 years respectively.[2]

PCO formed due to migration and proliferation of epithelium specially from equatorial region and the remnant of anterior lens capsule, fibrosis and formation of posterior capsular opacity which causes gradual impairment of vision and also decreased contrast sensitivity.

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Received Date : 24 October, 2019

Accepted Date : 12 January, 2020

Material and methods:

It was a prospective study was conducted over a period of June 2015 to june 2018 at the AD-Din Medical College and Hospital 2, Bara Moghbazar, Dhaka. Total 175 patients (179 eyes) were included in the study.

Patients above the age of 15 years, more than 6months after cataract surgery, and significant posterior capsular opacity, uncomplicated cases of both male and female were under our study.

Extreme age, non-cooperative, previous history of retinal detachment surgery, active uveitis, glaucoma, dislocated IOL, zonular dialysis and any form of congenital defects were excluded our study.

Before laser capsulotomy detailed history was taken and complete ocular examination were done including visual acuity slit lamp examination, tonometry with Goldmann applanation tonometer and fundus examination.

Result:

A total of 175 patients (179 eyes) were included in the study including 72 male (41.14%) 103 female (58.86%).

Age range of 15 to 80 years. Age distribution of patients is shown in table-1. Table-2 shows side of eyes. Table-3 shows sex distribution, table-4 shows distribution of Nd:YAG laser done after cataract surgery, table-5 shows energy level used in capsulotomy and table-6 shown complications.

Table-I: Distribution of age of patients

Age (in year)	No	Percentage
15-29	12	6.35%
30-39	07	3.70%
40-50	35	18.52%
51-60	61	32.28%
61-70	46	24.34%
71-80	23	12.17%
81 above	05	2.65%
Total	189	100%

Majority of the patients were from the age group of 51-60 years having 61 cases (32.28%). The second major age group was 61-70 years consisting of 46 cases (24.34%) followed by the age group of 40-50 years (35) cases.

Table-II: Side of the eyes affected

Side		
RE	112	59.26%
LE	77	40.74%
Total	189	100%

Of 189 eyes, 112 were right eye and 77 were left eye.

Table-III: Sex distribution

Sex	No	Percentage
Male	72	41.14%
Female	103	58.86%
Total	175	100%

Most of the patients were female with 103 cases (58.86%), male 72 (41.14%).

Table-IV: Time interval between PCO formation and Nd:YAG laser capsulotomy

Time interval	No of eyes	Percentage
6month	10	5.29
01 year	78	41.27
02 years	36	19.05
3 years	42	22.22
4years	23	12.17
Total	189	100%

In 78 cases (41.27%) the time interval between PCO formation and Nd:YAG laser capsulotomy was 1 year. In 22.22% cases it was 3 years and 2 years in 19.05% cases.

Table-V: Energy level used for capsulotomy

Energy level (MJ)	No of cases	Percentage
1-2	62	32%
2.1-2.5	48	25%
2.6-3	31	16%
3.1-3.5	28	14.81%
3.6-4.0	11	5.82%
4.1-4.5	09	4.76%
	189	100%

In 62 (32%) cases energy level used was 1-2 MJ followed by 2.1-2.5 MJ in 48 patients (25%) and 2.6-3 MJ in 31 patients (16%)

Table-VI: *Complications of patients*

Complication	No of patient	Percentage
IOL pitting	12	6.35%
Transient IOP elevation	09	4.76%
Cystoid macular edema	02	1.05%
Uveal reaction	03	1.59%
Total	26	13.75%

IOL pitting was seen in 12 (6.35%) post-operative patients. In 09 patients transient IOP elevation was observed, cystoid macular edema in 2 patients and uveal reaction in 3 patients.

Discussion:

Nd:YAG laser capsulotomy is one of the most common and effective procedures after small incision cataract surgery and phacoemulsification, the currently most advanced cataract surgery. Posterior capsular opacification is a major most remote complication of cataract surgery, specially younger age group and children.[1,2,3]

In our study 189 cases the time interval between cataract surgery and Nd:YAG laser capsulotomy was 2.5 years (range from 6 months to 4 years) while it was reported as 2.49 years by Hasan[4] and two year in a national study[5].

In our study IOL pitting was 12(6.35%). Hasan KS et al has noted IOL pitting 19.8% in a study of 86 eyes[5] and Haris WS noted 11.7% significant marks on IOL during laser capsulotomy in 342 eyes[6].

The retro-focusing of laser beam can reduce the risk of IOL damage[4].

Transient raise of intraocular pressure: The second most complication of YAG laser capsulotomy in our study was transient raise of IOP which was seen in 09 cases (4.76%). The mean raise of IOP was 7 mmHg above the baseline. The frequency of elevation of IOP after YAG laser capsulotomy is highly variable ranging from 0.8 mmHg(B) to 82mmHg[5] in different studies.[7-9] However, the IOP elevation is usually transient. In another study transient raise of intraocular pressure was 8.69%. In our study, the IOP was well controlled with topical beta blocker in all cases and in suspected case we used tab. Acetazolamide 250mgm 4times daily with potassium supplement.

Cystoid macular edema: In our study cystoids macular edema was seen in 02 eyes (1.05%). In other study cystoid macular edema was 3.89%.[10] In one study CME were seen in 9.6% [10]. In another study CME was seen in 8.0% cases, while in another study it was seen in 0.2% cases.[14]

Anterior uveitis: The cases of anterior uveitis seen in our study were 03 (1.59%). In other study anterior uveitis was seen in 05 eyes (1.14%).[10] In another study it was 1.14%.[11] In one study anterior uveitis was noted in 46.2% cases after YAG laser capsulotomy.[11] In one study showed that anterior uveitis was seen in 8.0% cases,[12] while in another study it was seen in 0.6% cases after YAG laser capsulotomy[13]. In our study anterior uveitis was not so severe and responded well to topical steroid therapy.

Retinal detachment, lens dislocation, subluxation, hyphema and endophthalmitis may happen. These complications were uncommon in other studies as well.[8,14,15] Other complications of YAG laser such a corneal endothelial damage[12], vitreous haemorrhage[10], macular hole[13] and macular hemorrhage were not seen in our study[14].

Most of these complications are associated with the use of high energy level combined with minimum number of precisely focused shots for achieving the desired effect that can reduce the risk of complications.[11,15]

Conclusion: The Nd:YAG laser capsulotomy is an effective and safe procedure for the treatment of opaque posterior capsule which is unique and magical approach for improvement of vision and restoration of effective life style.

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Commentry

Importance of Qualitative Research: Experience from my career in public health

Faugia Islam Anne

In our tertiary education system, students are mostly taught on quantitative method, a process which deals with numeric values and can create all these detailed information into an interactive one (just like telling a story) through analyzing and interpreting in a precise way. Experience was no different for me. It all changed during my MPH, where I learned about qualitative method and its application to public health. While doing theoretical course of qualitative methodology, the whole idea was quite confusing and abstract due to my quant background. During MPH thesis, i embedded qualitative with quant to answer my research question. Though data collection and extraction in qualitative can be a tedious process, I was surprised that how qualitative data complemented where quantitative data was unable to provide insights.

Qualitative research is a process which answers the question related to pattern of human behavior such as concepts, experiences and opinions. This research design answers these issues by collecting non numerical data to get insights of the problem or provides new ideas for further research. On the other hand, quantitative method deals with numerical data as well as objectivity of research finding. In healthcare research, whether its testing out new drug or a disease progression in hospital setting or community, to answer "how" and "why" question', data collected numerically for statistical analysis. Structured questionnaire designed with specific question by researcher is a main tool for quant studies whereby in qualitative studies open ended question leads by respondent's depth of knowledge and experiences to provide social and cultural dimension.

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Received Date : 02 November, 2019
Accepted Date : 30 December, 2019

In recent years, globally, more and more researcher is adopting qualitative approach to their methods for subjective insights. It allows them to capture client perspective of healthcare as well as helps to understand how clients perceive health care services. Qualitative method is an important tool in primary health care when researchers want to ask questions about why patients and healthcare professionals behave in a particular way and to focus on participants' feelings, meanings and experiences. For an example, in a drug trial, quantitative method can assess how many patients are not consistent with the drug ingestion. However, this information itself doesn't help to solve the problem (inconsistent drug ingestion), only highlights the extent of the problem. Interestingly, qualitative research can explore why is this happening and may able to provide ideas to solve the problem.

In Bangladesh, most researcher are quant oriented. Moreover, my last five-year experience in different research projects at IPH, BBF, and currently at the icddr,b yielded a basic information that qualitative research is much less practiced in medical research in Bangladesh, if not in public health. Based on these, I do believe, students involved in health care should have pretty much access in both research methodologies such as quantitative and qualitative. Thus, when they will come out as health professionals they will acquire in the depth hunch, interest, to devote to themselves in academic and research issues in a for more effective manner.

For further reading

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