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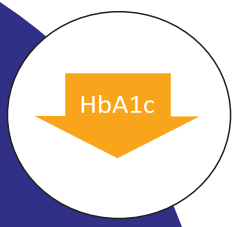

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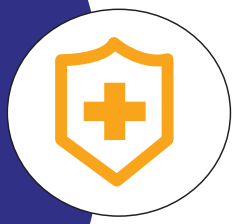

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KPJ Dhaka Journal of Medical Science is a peer reviewed journal published biannually in January and July by Sheikh Fazilatunnessa Mujib Memorial KPJ Specialized Hospital.

PUBLICATION FREQUENCY:

The journal is published biannually in January and July.

OPEN ACCESS POLICY:

This journal provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge.

PUBLISHER:

Sheikh Fazilatunnessa Mujib Memorial KPJ Specialized Hospital.

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ORIGINAL ARTICLE

FACTORS THAT INFLUENCE THE RESPONSE OF HEPATITIS B VACCINE IN HAEMODIALYSIS PATIENTS IN BANGLADESH

Nahar K [1], Sunny M[2], Akter T[3], Tabassum S[4], Nessa A[5],Jahan M[6]

ABSTRACT:

Patients on haemodialysis are usually at a high risk of contracting hepatitis B virus (HBV) and elicit a weak response to the hepatitis B vaccine. This study was aimed at determining the factors affecting the response to HBV vaccination in haemodialysis patients. HBV vaccination was administered to 50 patients on haemodialysis who were negative for HBsAg, anti-HBc (total), and anti-HCV antibody and did not previously receive any dose of the HBV vaccine. The patients were vaccinated with 40 µg (per dose) of Engerix B (GlaxoSmithKline Biologicals, Belgium) following 0, 1, 2, and 6 months schedule. Based on the level of antibody (anti-HBs) response after the completion of vaccination, the patients were divided into three groups: good responders (>100 mIU/mL, poor responders (10-100 mIU/mL), and non-responders (<10 mIU/mL). The overall seroconversion rate was 80%. The vaccine response rate was high (93.3%) in patients aged less than 40 years and lower (73.4%) in patients aged over 40 years. The response rate was also higher in users of erythropoietin than non-users (90.45% vs 72.41%). No other significant factors relating to the HBV vaccine response in the haemodialysis patients could be determined. Further studies with with a larger sample-size are necessary to confirm the findings of the present study.

Key Words: *Hepatitis B vaccine, Immune response, Risk factors.*

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INTRODUCTION:

Since haemodialysis patients are at a high risk of contracting hepatitis B virus (HBV), vaccination is used routinely as prophylaxis. Globally, the prevalence of HBV among dialysis patients is about 3-10%.[1] The prevalence of HBV infection among haemodialysis patients varies from 4.5% to 21.6%.[2 6] In Bangladesh, about 12% of all maintenance haemodialysis patients were serologically positive for HBV infection.[7] Blood-product transfusions, contamination from dialysis equipment, and infections from other environmental sources are the major sources of infection in haemodialysis patients.[8]

The response rate to HBV vaccine in haemodialysis patients is poor compared to healthy population.[9] The risk factors that are associated with low immune response or non-response to the hepatitis B vaccine include chronic kidney disease, diabetes mellitus, low complement IV factor, inadequate cytokine response

creatinine, use of low biocompatibility dialysis materials, hyperparathyroidism, weight, anaemia, overload of iron, malnutrition (low albumin), weight, concomitant infection with hepatitis C virus, advanced age, and gender.[10] [12]

On the other hand, young age (<40 years), good nutritional status, and adequacy of dialysis are associated with good response to the hepatitis B vaccine.[13] Therefore, hepatitis B vaccination is recommended for all chronic kidney disease patients before they become dependent on dialysis and also for patients who are currently on dialysis.[14]

To improve the seroconversion rates of hepatitis B vaccine, an extra dose of vaccine for a four-vaccine series and doubling the dose of vaccine to 40 µg per dose is recommended.[15] Some studies have reported an 80% seroconversion rate with this regime.[16] So far, only one study was published from IPGMR,

Bangladesh regarding vaccine response on haemodialysis patients. So, the present study was performed to observe the immune response with a double dose of hepatitis B vaccine and the factors influencing the response rate

MATERIALS AND METHODS:

Study site and sample:

The study was conducted during January-December 2008 at the Department of Virology, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh. Fifty haemodialysis patients (20 males and 30 females) aged 20-70 (mean age 46.52±12.36) years were selected from BSMMU, Renaessance Hospital and Research Institute Limited and the Kidney Hospital and Dialysis Centre, Dhaka, Bangladesh. Their mean serum creatinine level was 8.53±2.[14] (mg %). Of the 50 subjects, 18 (36%) were diabetic, and 32 (64%) were non-diabetic. The hepatitis B vaccine was administered to the study subjects who were negative for HBsAg, antibody against hepatitis B core antigen (anti-HBc), and anti-HCV antibody and had not received any dose of HBV vaccine previously. With four doses (40 µg per dose) of the vaccine Engerix B (GlaxoSmithKline Biologicals, Belgium)—intramuscularly at deltoid muscle at 0, 1, 2, and 6 months. Anti-HBs antibody was tested by the chemiluminescent enzyme immunoassay method (Immulite 2000, USA) one month after the last dose of the vaccine. Based on the level of anti-HBs antibody response, the subjects were divided into three groups: good responders (>100 mIU /mL, poor responders (10-100 mIU/mL), and non-responders (<10 mIU/mL). Screening for hepatitis B surface antigen (HBsAg) and total antibody to core antigen (anti-HBc) was performed by the enzyme-linked immunosorbent assay method (4th generation) and immuno chromato graphic immunoassay respectively. Factors, such as duration of dialysis, weight, haemoglobin, serum creatinine, and presence of diabetes mellitus, were also determined.

STATISTICAL ANALYSIS:

Data were analyzed using the SPSS software for windows (version 11.5). Test of significance was estimated using the statistical method. Values were expressed as mean±standard deviation (SD). Antibody responses among the variables were compared by chi-square test. The p value of <0.05 was considered significant.

ETHICAL APPROVAL:

Ethical clearance was obtained from the Ethical Committee of BSMMU.

RESULTS:

After the completion of the vaccination schedule, the overall seroconversion rate was 80%. Only 10 (20%) patients did not respond (Table 1). Of the 40 responders, the mean (±SD) time (months) on dialysis, weight (kg), haemoglobin (%), and serum creatinine (mg/dL) were 6.20±3.74, 53.80±9.83, 8.99±1.36, and 9.64±1.78 respectively. Of these 40 responders, 15 (37.5%) patients were diabetic. Among the 10 non-responders, the mean time (months) on dialysis was 5.09±3.05, the mean weight (kg) was 57.63±9.38, the mean haemoglobin (%) was 9.76±1.27, and the mean serum creatinine (mg/dL) was 8.25±2.15. Diabetes mellitus was present in three (30.3%) of the 10 non-responding subjects [Table 2]. The difference in these variables among the responders and non-responders was not significant (p=0.94). Of the male subjects, 14 (70%) were responders, and six (30%) were non-responders. In the case of the *30*

females, 26 (86.7%) were responders, and four (13.3%) were non-responders. The seroconversion rate was higher (86.7%) in female subjects than the male subjects (p=0.15). Of the younger subjects aged less than 40 years, 14 (93.3%) were responders while only one (6.7%) was non-responder. However, 26 (74.3%) of the subjects aged above 40 years were responders, and nine (25.7%) were non-responders. The antibody response rate of the younger subjects was higher compared to the older subjects (p=0.25). Of the diabetic subjects, 15 (83.3%) were responders, and three (16.7%) were non-responders. In the non-diabetic subjects, 25 (78.1%) were responders, and seven (21.9%) were non-responders. Thus, the seroconversion rate was comparatively higher among the diabetic patients than the non-diabetic patients (p=0.94) [Table 3].

Of the 21 haemodialysis patients treated with erythropoietin, 19 (90.45%) were responders, and two (9.55%) were non-responders. Of the 29 patients who did not receive erythropoietin, 21 (72.41%) were responders, and eight (27.59%) were non-responders. The response rate was comparatively much higher among the users of erythropoietin than the non-users (p=0.22).

DISCUSSION:

Infection is the second leading cause of death of dialysis patients.The recombinant HBV vaccine has been recommended for all dialysis patients since the mid-1980s.[9] Patients with renal failure have a lower response to vaccination due to suppression of the immune system.[10] Previous studies have shown that unresponsiveness to the HBV vaccine was multifactorial and was related to the presence of several modulators.[16] [17] Although the majority of individuals vaccinated against HBV respond successfully to vaccination, 5-15% of these persons may not respond to the vaccine.[18]

Our study detected 20% non-responders and 80% responders after the completion of vaccination schedule. Of them, 32% were poor responders, and 48% were good responders. In other studies, 13-27% of patients were non-responders, 22-27% poor responders, and 51-59.2% good responders after the completion of the vaccination schedule.[19-20] A study in Bangladesh reported a 75% vaccine response rate among dialysis patients.[21] in India a 50% response rate after the third dose of vaccine.[22] The response rate of the vaccination regime following the same vaccine schedule ranged from 73% to 87% in other studies.[19] [2] Various factors, such as uraemia, malnutrition, low body weight, diabetes mellitus, advanced age, HCV infection, impaired T cell receptor expression, and certain HLA types has been implicated for the poor antibody response in haemodialysis patients.[12],[23-25] In our study, the mean time on dialysis, weight, serum haemoglobin, serum creatinine, and DM had no significant effect on the vaccine response. Other studies did not also observe any association with these factors and vaccine response.[16,21-20,26] Diabetic patients with chronic renal failure commonly have impaired insulin clearance and require less exogenous insulin due to diminished degradation by renal insulinase. Therefore, these patients can maintain their blood sugar at normal levels. A study in the USA observed that the mean body-weight was higher, and the mean serum creatinine level was lower in non-responders than responders, indicating a lower percentage of muscle mass among non-responders.[9] These findings seem to correlate with the findings of our study. Although an association was reported between the increased antibody response rates and the increasing length of time on dialysis but not on the duration of dialysis[25] this could not be established in our study. Moreover, factors relating to HBV vaccine responses are variable in different ethnic groups. Thus, further studies with more patients are necessary to confirm these data.

A higher antibody response rate was observed in the female subjects (86.7%) than in the male subjects (70.0%) in our study, although this difference was not significant. Other investigators reported similar findings. [26] [27] Some studies observed that the gender of subjects did not influence the rate of response to the hepatitis B vaccine in haemodialysis patients. [26] [28]

In this study, the antibody response , was higher in younger subjects (93.3%) than in older subjects (74.3%). Other studies also reported same findings.[29] [30] A study in Egypt reported the response rate of 84.2% among patients aged less than 40 years, which decreased to 33.3% among patients aged 60 years or above.[27] In our study, the vaccine response rate was higher in the diabetic patients than the non-diabetic

Table 1.

Response rates to vaccination among haemodialysis patients

Type of response	Time of anti-HBs antibody test At 7th month No.	%
Total response rate	40	80
Good responders (>100 mIU/mL)	24	48
Poor responders (10-100 mIU/mL)	16	32
Non-responders (<10 mIU/mL)	10	20

Table 2

Comparison of variables of responders and non-responders among haemodialysis patients

Variable	p value$ (chi-square test)	Non-responders (<10 mIU/mL) (n=10)	Responders* (≥10 mIU/mL) (n=40
Mean time (months) on dialysis	5.09±3.05	6.20±3.74	0.33
Mean weight (kg)	57.63±9.38	53.80±9.83	0.26
Mean haemoglobin (%)	9.76±1.27	0.99±1.36	0.09
Mean serum creatinine (mg/dL)	8.25±2.15	9.64±1.78	0.07
Diabetes mellitus, no. (%)	3 (30)	15 (37.5)	0.94

Data are expressed as mean (±SD); *Responders include both good and poor responders; $p<0.05 was considered significant; SD=Standard deviation

Table 3

Factors associated with anti-HBs antibody response

Factor	No. of patients	Anti-HBs titre: Responders* (≥10 mIU/mL) No.	%	Responders* (<10 mIU/mL) No.	%	p value
Gender						
Male	20	14	70	6	30	0.15
Female	30	26	86.7	4	13.3	
Age (years)						
<40	15	14	1	6.7	0.25	
<40	35	93.3	9	25.7		
		26	74.3			
Diabetes mellitus						
Diabetic	18	15	83.33	16.7	0.94	
Non-diabetic	32	25	78.17	21.9		
Treatment with erythropoietin						
Users	21	19	2	9.55	0.94	
Non-users	29	90.45	8	27.59	0.22	
		21		72.41		

*Responders include both good and poor responders

patients (83.3% vs 78.1%) (p=0.94). Some investigators reported a reduced efficacy of vaccination in adult diabetic patients with the longer duration of disease.[32] Diabetic patients have lower degree of antigen presentation and T-cell function, low complement IV factor, decreased cytokine response after stimulation, and decreased function (chemotaxis, phagocytosis, killing) of neutrophil, monocytes/macrophage, which may all be responsible for the reduced vaccine response.[11] Some studies demonstrated the seroconversion rates of 90-92% to the hepatitis B vaccine in diabetic patients.[30,32] Other studies reported a very little or no affect the vaccine.[19,33] However, the number of diabetic patients was quite low in our study to reach a definite conclusion.

Although erythropoietin stimulates the proliferation of B lymphocytes and the production of immunoglobulin, it reduces the sensitization and responsiveness of T lymphocyte.[26] In the present study the patients treated with erythropoietin had higher antibody than those not on erythropoietin treatment. Result of a study showed that erythropoietin therapy improved the response rate[34] while other studies did not observe any significant role of erythropoietin in the hepatitis B vaccine response. [16,19,26]Conversely, a study in China detected a 46% response rate among users of erythropoietin.[32]

Our study concluded that the female were better responders to the hepatitis B vaccine than the male, and the vaccine response rate was higher in the younger than the older ones. Moreover, the users of erythropoietin had a better response rate than the non-users.

There were some potential limitations as regarding the low number of cases, including diabetic patients, while the distribution of age and gender was also not equal. Nevertheless, it should be considered that, in different ethnic groups, factors relating to HBV vaccine responses may vary, and perhaps unknown factors were responsible for this disagreement. Thus, further studies with a larger sample are necessary to confirm the findings of the present study.

ACKNOWLEDGEMENTS:

The authors acknowledge the help extended by the Renaessance Hospital and Research Institute Limited and the Kidney Hospital and Dialysis Centre, Dhaka. The authors are also grateful to all the dialysis patients for their active participation in the study

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CASE REPORT

TRANSHIATAL ESOPHAGECTOMY WITH COLONIC INTERPOSITION FOR CAUSTIC INJURY

R Hassan[1], JMH Q Alam[2], M Akhter[3]

ABSTRACT:

Ingestion of caustic agent for suicidal attempts is alarming due to easy availability & lack of knowledge of post survival complications. In acute phase complication includes dysphagia, odynophagia, Oedema & ulceration followed by perforation & mediastinitis. Consequently, stricture and carcinoma develop in later stages. Thus, early assessment with endoscopy to evaluate the severity & extent of injury is gold standard within 48hrs of incident. Our patient was a 19-year-old female who had 3rd degree esophageal burn after ingestion of a bottle of caustic substance (Harpic). For swallowing difficulty & nutrition, maintenance Feeding Jejunostomy was done. Later, patient developed long segment esophageal stricture and pyloric stenosis, for which she underwent Transhiatal Esophagectomy & Colonic Interposition. The patient made a good postoperative recovery and was free from complications at the end of 2 years of follow up.

Key Words: *Caustic substance, Esophageal burn, Transhiatal, Colonic Interposition, pyloric stenosis.*

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INTRODUCTION:

Harpic, a well-known sanitary cleaning agent, poisoning incidents for which is increasing day by day. It contains Hydrochloric Acid (10%) as the active ingredient along with Butyl Oleyl amine and others in an aqueous solution.

Caustic substances are merchant all around the countries and popularized with extensive advertising. Although they are hazardous and may cause serious injury to the respiratory and gastrointestinal tract. Children usually ingest it accidentally whereas adult swallow in a larger amount intentionally for suicidal attempt.

Severity of injury and long-term complications depend on amount and mode of intake. After caustic ingestion patients complain burning sensation of mouth and throat, retrosternal chest pains, nausea, vomiting, often with bloody content. These symptoms may develop immediately after caustic ingestion, or be delayed for few hours after ingestion and they may last days and weeks. Hypersalivation, difficulty in swallowing with edema, ulceration or whitish plaques in the oral cavity, palatal mucosa and pharynx are common phenomena.[1] The most common late complications are esophageal strictures and stenosis, gastric stenosis of the antrum and pylorus, esophageal and stomach cancer.[2,3]

Several methods are used to estimate and evaluate lesions caused by caustic ingestion. Simple radiography in suspicious cases of perforation, radiography with contrast, CT scan with and without contrast, nuclide radio scan and endoscopy because of sensitive and accurate information in the acute phase after ingestion, were the selected methods for the estimation of severity and extent of the burns.[4]

This case made us realize that, after primary management early establishment of nutrition plays a crucial role in the management of caustic injury. Subsequently we can plan routine follow-up and surgical management if any long-term complications arise.

CASE REPORT:

A 19-year-old lady was in familial disharmony. She had a fight with husband and decided to end her life and drunk a bottle of Harpic. Immediately after drinking she felt burning at her throat chest and abdomen but nobody could notify this until 3hours. She was taken to emergencies of different hospital and brought to our hospital after 48 hours.

Immediately endoscopy was performed that reveal 3rd degree esophageal burn. After initial symptomatic management feeding jejunostomy done for nutritional support as patient could not even swallow saliva. Patient was discharge thereafter and was on regular follow-up.

After 2 months check endoscopy was done which showed lower esophageal stricture and on Gastrograffin swallow X-ray Esophageal stricture and Gastric hold up found. (Figure 1).

Contrast enhanced CT Chest and Abdomen revealed long segment esophageal stricture 2 cm above the Carina to lower end and Pyloric stricture.

Then, we planned for surgical intervention. Preoperative nutritional improvement attempted by both parenteral (TPN) & Enteral (Feeding Jejunostomy) route. On table Colonoscopy reveal normal Colon.

During laparotomy, Colon mobilized (Figure 2 A, B, C). after omentectomy and colonic vasculature assessed (Figure 3), then stomach mobilized. Cervical incision was made and esophagus mobilized, Esophagectomy (Figure 4) followed by Colonic pull up (Isoperistaltic, based on ascending ending branch of left & middle colic artery) performed. Then, Pharyngocolonic anastomosis, Cologastric & Colocolic anastomosis was made. Finally, Roux-en-Y Gastrojejunostomy with Feeding Jejunostomy performed.

Postoperative period was uneventful, no anastomotic leakage and no strictures. Feeding Jejunostomy tube were removed after one & half month. Patient was in follow-up for the last 1.5 years.

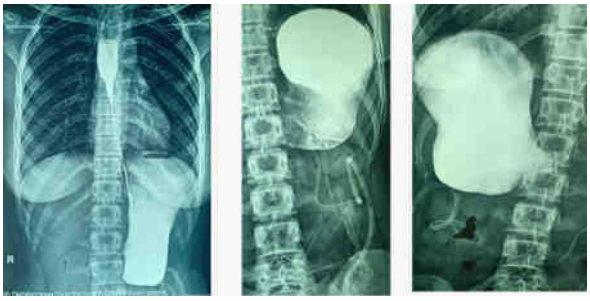
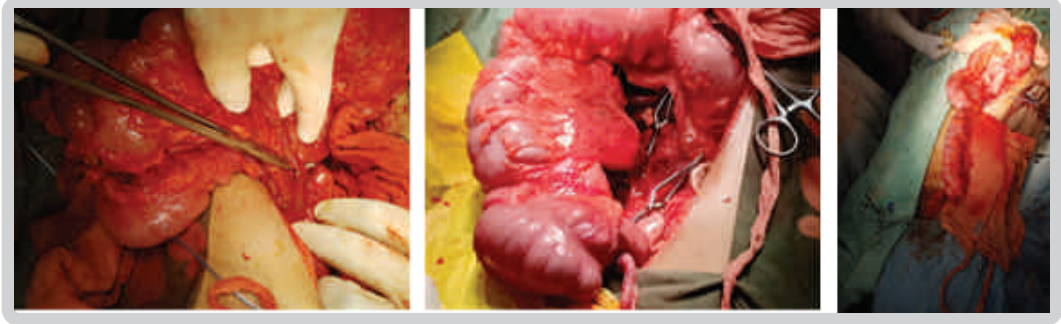


Figure 1: Lower esophageal stricture & Gastric hold up.



A B C

Figure 2: (A,B,C) Colonic Mobilization

Figure 3: Colonic Vascular Assessment.

Figure 4: Esophagectomy Specimen

Figure 5: Esophagocolic Anastomosis.

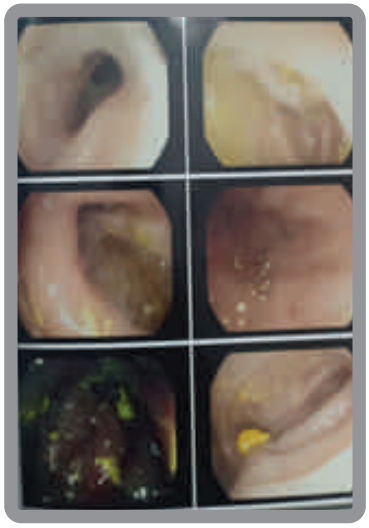


Figure 6: FU EGD after 6 Months.

DISCUSSION:

Accidental swallowing of caustic materials can cause serious damage to the gastrointestinal tract. This damage occurs in the esophagus because it is the most delicate and defenseless tissue and at the same time, has the greatest contact with ingested caustic substances. [5]

Esophageal injury also tends to be most severe at areas where the lumen is smaller, and consequently the transit speed is lower.

The most optimal timing for esophago gastro duodenoscopy is the first 48 hours post-ingestion. Since inflammatory changes, vascular thrombosis and the healing process of the post-corrosive injuries begin the 4th and are most intensive until the 14th day, it is suggested to avoid this diagnostic procedure during this period.[6]

It is important not to administer emetics because this will re-expose the esophagus to the caustic agent.t

Gastric lavage is also contraindicated, owing to the risk of esophageal perforation and aspiration of gastric contents.

Early dilatation & stenting can prevent esophageal stricture. Early indication of surgery includes esophageal perforation, transmural necrosis, grade 2 or 3 injury. Late indications are complete stenosis in which all attempts are failed, perforation after dilatation, esophageal carcinoma, fistula formation.

Options for reconstructive surgery with conduits includes platysma myocutaneous flap Jejunal interposition, Gastric pull up, Gastric tube, reversed gastric tube, Colonic pull up. Advantages of Jejunum as conduit are its availability and reliable transport of food. The diameter & wall thickness of the Jejunum closely resembles that of the esophagus. Its isoperistaltic placement provides some defense against gastroesophageal reflux. Major disadvantage is its arterial supply variations in the Jejunal arcades may limit the amount of length that can be gained when the Jejunum is used as an interposition or roux limb. [7]

Colon has a number of attributes that make it an excellent option for esophageal replacement. It has several key advantages, including long length, acid resistance, typically excellent blood supply, and the potential for a wide gastric resection margin for

patients with cancers of the gastroesophageal junction.

In most patients the graft is placed in the posterior mediastinum in the bed of the native esophagus, and this route tends to produce the best functional result.
Long-term problems with colon interposition are reported to occur in approximately one third of patients. The majority of these consist of, Graft redundancy, aspiration, bile reflux.

CONCLUSION:

Injury caused by caustic agent, the mainstay of treatment includes maintaining the airway, breathing, circulation and symptomatic management. Early establishment of adequate nutritional status is as important as the first line treatment of any life threating event. Isoperistaltic left colon may act as the best substitute for esophagus replacement with satisfactory long-term functional results.

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CASE REPORT

HEPATOCELLULAR CARCINOMA IN A TEENAGER: A CASE REPORT

CMA Parvez[1], M L Hossain[2], A A Khan[3]

ABSTRACT:

Hepatocellular carcinoma (HCC) is the most common primary liver malignancy. In western countries, over 90% of HCC cases develop on cirrhotic liver. On the contrary, in Asia and Africa the percentage of HCC cases are relatively higher in non-cirrhotic individuals than cirrhotic. This case report describes an 18-years teenage female patient who presented with 4-5 months history of recurrent right hypochondriac pain and abdominal distension, swelling of feet for 1- 2 weeks. She also reported loss of appetite, significant weight loss, and occasional vomiting but there were no other symptoms. Triphasic computed tomography (CT) revealed large heterogeneously enhancing predominantly cystic mass in the right lobe of liver with of septal enhancement. Serum alpha fetoprotein level was high (567 ng/L) and histopathological study confirmed the presence of primary hepatocellular carcinoma. This case finding suggests that hepatocellular carcinoma could be maiden manifestation in teenagers without evidence of preexisting liver disease.

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INTRODUCTION:

Worldwide, Primary liver malignancy is the sixth most common cancer. Hepatocellular carcinoma (HCC) comprises 90% of them.[1,2] It is the fifth most common cancer in men and the ninth in women.[3,4] HCC has a strong male predominance with male to female ratio of 2–3:1.[5] Furthermore, HCC in non-cirrhotic patient has a bimodal presentation, peaking during the 2nd and 7th decade of life[6] and more advance stage at the time of presentation.[7]

CASE REPORT :

18-year-old teenage girl attended in our outpatient department with 4-5 months history of recurrent right hypochondriac pain and abdominal distension, swelling of feet for 1- 2 weeks. She reported loss of appetite, significant weight loss, and occasional vomiting but there were no other symptoms. There was no significant past illness, drug or family history of note. On examination, she was oriented, ill looking, anemic, icteric and bilateral pitting pedal oedema was present. Abdominal examination revealed moderate ascites with engorged blood vessel in the upper anterior and lateral abdominal wall with flow away from umbilicus. Liver is palpable liver (4 cm below the right costal margin, firm and non-tender), no splenomegaly. There were no stigmata of chronic liver disease.

Her previous abdominal ultra-sonogram reveled multiple hyper echoic hepatic lesions with a large oval shape mixed echogenic lesion at the right lobe of liver with moderate ascites. Triphasic computed tomography (CT) was done and it revealed large heterogeneously enhancing predominantly cystic appearance mass in the right lobe of liver containing solid elements and multiple hyper dense septa.

Enhancement of septa (rim enhancement around the periphery) and nodular elements are also noted. Multiple rounded enhancing nodules were noted at right lobe & left lobe of liver. Inferior vena cava was compressed by the mass and portal vein thrombosis was also noted (Fig.1). Serum alpha-fetoprotein level was 567 ng/L (normal <6 ng/L). Histopathological study of liver specimen reported atypical hepatocytes consistent with hepatocellular carcinoma (Fig. 2). CBC revealed Hb of 10.7 gm/dL, WBC of 9400/c mm, and platelets of 219,000/c mm. LFTs showed total bilirubin of 51.5 mmol/L (reference range)2-28, ALT 30 IU/L7-48, AST 4-77 U/L 7-44,alkaline phosphatase 186 U/L 32-104, Serum albumin 28 g/L 34-50. PT and PTT were normal. Serology for viral hepatitis including HBsAg, anti HBc total positive and HCV-Ab was negative. PCR for HBV-DNA was undetectable. Ascetic fluid analysis revealed no malignant cell, SAAG 1.3. Iron panel was normal. RFTs and electrolytes were normal Metastatic workup including CEA levels, CT scan of brain was normal. Chest-x-ray and chest CT scan revealed multiple nodular lesions in both lung fields. Her Child-Pugh score was 10, stage: advanced. She received only symptomatic treatment.

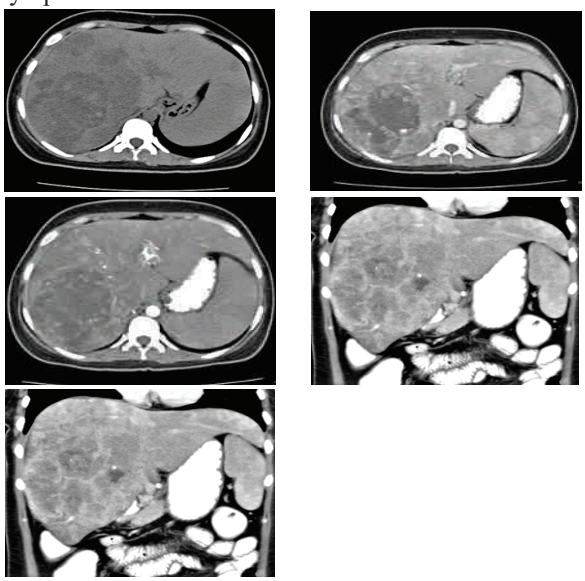

Figure 1: CT revealed heterogeneously enhancing predominantly cystic mass with septal enhancement

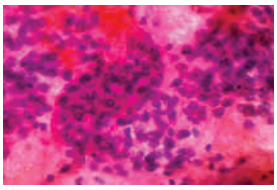

Figure 2: Histopathological study of liver specimen with atypical hepatocyte consistent with hepatocellular carcinoma.

DISCUSSION:

Cirrhosis of the liver is the single most important risk factor for HCC. In western countries, over 90% of HCC cases develop on cirrhotic individual, whereas in Asia and Africa the percentage of cases of HCC is higher in individuals with non-cirrhotic livers, compared to those with cirrhotic livers.[8-9] Approximately 20% of HCC's have been known to develop in a non-cirrhotic liver.[6-10] This is consistent with our case who presented without any clinical and radiological evidence of chronic liver disease.

HCC usually present at age 50-70 years. Fibro lamellar hepatocellular carcinoma (FHCC) usually occurs in young people with equal sex distribution and normal alpha fetoprotein (AFP).[7] Though our patient is young, high AFP and histological findings are incongruous with the diagnosis of FHCC.

Presence of arterial enhancement of a nodule 2 cm or more in size with subsequent washout on portal or delayed phases are considered to be the definitive imaging features of HCC and recommended in the guidelines by various associations for liver studies.[11,12,13] But it could present as solid, cystic or mixed lesions in the liver. Areas of necrosis or hemorrhage within the tumor create a cystic appearance on imaging.[14] In case of cystic and mixed appearance arterial enhancement of septa could be differentiating feature from liver abscess. In our case, lack of systemic features, heterogeneously enhancing cystic mass with septal enhancement on CT scan, histological features are consistent with HCC.

Different modalities of treatment are available for HCC. Presence of ascites, metastasis to lungs and portal vein thrombosis precludes surgery, transplantation and trans arterial chemoembolization

(TACE). Sorafenib is indicated as the first line of treatment in patients who cannot benefit from the above therapeutic options.[15,16] As her Child-Pugh score was 10 and stage was advanced, she was treated symptomatically.

CONCLUSION:

Although HCC is common worldwide, it is rare in teenagers and could be maiden manifestation without evidence preexisting liver disease.

ACKNOWLEDGEMENTS :

The authors report no conflict of interest and no funding was received for this work.

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CASE REPORT

ENDOSCOPIC TREATMENT OF URETERIC STRICTURE: A CASE REPORT

R Biswas[1], M L Hossain[2]

ABSTRACT:

Introduction:

This case report focus on the role of endoscopic treatment of ureteral stricture.

Mr. J, 31 years old, male came in urology OPD with left loin pain radiated to left inguinal area & performed Left Lower ureteric balloon dilatation + D-J stenting.

Endoscopic ureteral balloon dilatation for benign ureteric stricture is a better & feasible treatment option in the era of minimally invasive surgery.

Key Words: *Ureteral stricture, Endoscopic treatment, Balloon dilation*

MATERIAL AND METHODS:

Mr. J, 31 years old, male came in urology OPD with left loin pain radiated to left inguinal area. Patient had history of Tonsillectomy 2012, HTN.

O/E: Left lower abdomen was tender, Ext. gent. Normal, DRE-normal. Urine RME & Sr. Creatinine were normal, X-ray LS - Degenerative change of dorsal spine, USG of KUB–Left sided hydronephrosis, IVU-Left sided hydro uretero nephrosis due to stricture of left lower ureter. On 26.11.18 Cystoscopy B/L RGP + Left Lower ureteric dilatation + D-J stenting done under spinal anesthesia, Ureteroscopic evaluation showed fibrotic changes of the ureteral wall. There was no evidence of suspicious lesions or tumors. The ureteroscope did not pass beyond the area of stricture part less than 2 cm). The balloon catheter was placed through narrow ureter along the guide wire, and the balloon was pressurized to 25 atm & Dilated, expansion for 10 min, dilatation performed distally & proximally of stricture part, then D-J stent well kept.

The stent was removed 2.5 months later and 3, 6-month & 3 year postoperative US studies showed no hydroureteronephrosis. The patient has remained asymptomatic.

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APPROACH CONSIDERATIONS:

No accepted medical treatment of ureteric strictures currently exists. Surgical procedures used in these patients include the following:

- Balloon dilatation
- Endo-ureterotomy
- Placement of metal ureteral stents
- Open surgery

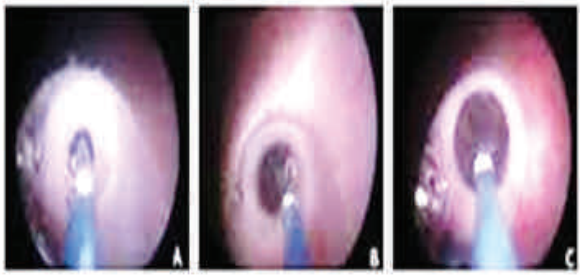
DISCUSSION:

Ureteric Stricture – can block or narrow the ureter & making it difficult to pass urine from the kidney to bladder. Ureteric stricture can lead to urinary dilatation, water accumulation, and renal colic in the consensus on balloon type, dilatation pressure, technique. A few large studies, including the 151 cases reviewed by Kuntz and associates.[2] Show no long-term sequelae or clinically significant complications from ureteral balloon dilation up to 18F.[3] A few studies have demonstrated a 0% success rate at 12 months for endoscopic management of strictures of more than 2 cm at any location.

Therefore, more and more urologists choose to treat ureteral stricture under endoscopy. The techniques of urinary endoscopic treatment of ureteric stricture include ureteric balloon dilatation, ureteral holmium

laser incision, and ureteral stent implantation. Among them, the ureteric balloon dilatation technique is characterized by the use of a balloon to uniformly force the ureteral wall, tearing the narrow scar tissue, expanding the inner diameter of the ureter, re canalizing the urinary tract, and alleviating hydronephrosis. It have been reported with less complications and simple procedure.

Stricture part of lower ureter



Endoscopic Ureteric Balloon Dilatation Procedure

CONCLUSION:

Endoscopic ureteral balloon dilatation for benign ureteric stricture is a better & feasible treatment option in the era of minimally invasive surgery. Its effect can be long-lasting in selected patients, that is, non-irradiated, incidental, short strictures with normal kidneys

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CASE REPORT

FLOATING WIRE TECHNIQUE IN OSTIAL LEFT MAIN DISEASE: CASE REPORT

MA Rahman[1], MM Sunny[2], MR Hossain[3]

ABSTRACT:

Introduction: Due to severe ischemia and hemodynamic instability, Ostial left main PCI is always challenging. Sometimes this procedure involves in the treatment of bifurcations and is a part of complex PCI.

Ostial left main PCI requires meticulous & continuous monitoring to identify and treat potential complications. Guide catheter support to minimize the risk of further ischemia and careful lesion preparation is also important. For bifurcation left main lesions, intravascular imaging (IVUS) is strongly recommended to optimize the PCI outcome. In these cases, stenting is performed very carefully and hemodynamic support may be needed for prophylaxis or for complications.

Appropriate evaluation of the lesion by coronary angiography and intravascular imaging (IVUS) along with expertise of operator remains paramount to the decision-making process and strategy.

Key Words: *Floating wire technique, Ostial Left Main Disease (OLMD)*

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INTRODUCTION:

A 47-year-old gentleman patient was admitted to the hospital due to recurrent chest pain. Angiography showed 80% stenosis in the ostial LMCA. One drug-eluting stent (DES) was implanted from the ostial LMCA to the part of the distal LMCA. An excellent angiographic result was achieved.

BACKGROUND:

Significant left main coronary artery disease (> 50% diameter stenosis) is found in 4-10% of patients who undergo coronary angiography.[1] In accordance with the present guidelines on myocardial revascularization of the European Society of Cardiology (ESC), patients with left main coronary artery (LMCA) stenosis are appropriate candidates for coronary artery bypass grafting (CABG) as well as percutaneous coronary intervention (PCI).[2] The key factor which determines the treatment strategy is the result presented in the risk stratification scale (SYNTAX score) as well as the localization of the lesion in the left main.[3] Another important factor is the presence of single or multi-vessel coronary artery disease.[4&5] Immediate PCI is considered in acute coronary syndrome (ACS) patients with or without cardiogenic shock due to left main disease.[6&7]

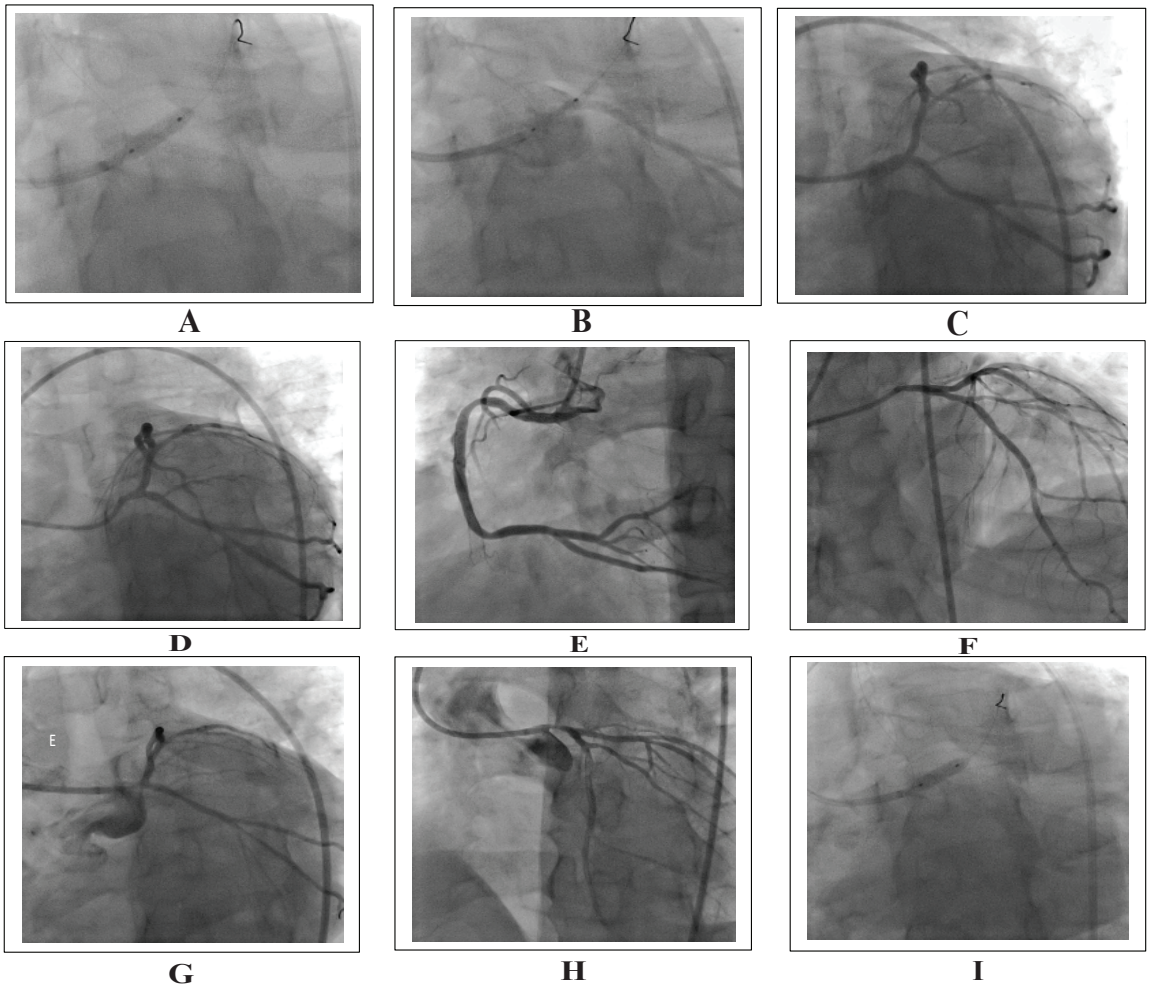
CASE PRESENTATION:

A 47-year-old gentleman of Asian origin with a history of recurrent intermittent chest pain treated with a conservative strategy 2 months before was admitted to the hospital due to recurrent chest pain for 7 days. The patient's concomitant diseases were arterial hypertension, diabetes and dyslipidemia. On admission, pulse was 72 bpm (regular) blood pressure was 130/60 mm Hg. His electrocardiogram (ECG) & Echocardiogram (ECHO) had no significant changes.

OBSERVATIONS:

The coronary angiography showed 80% obstruction in the ostial part of the LMCA (Figure A), free of stenosis in the left anterior descending (LAD) artery (Figure B). Moreover, free of disease of the right coronary artery (RCA) and Left circumflex. As he was a high risk patient, it was discussed in "heart team" meeting and he was suggested for PCI.

During the procedure, wiring were done in both LAD & LCX. Then the wire in LCX was withdrawn & kept floated in the aorta, which acted as the marker of origin of LMCA. Direct stenting was done with deployment of one DES (Sirolimus-eluting stent). The stent (4.0mm × 09 mm) was implanted into the ostial LMCA. Post-dilatation was performed using a POT technique with a 4.0x06mm NC balloon. The final angiographic result was proper. After a 2-day rehabilitation, the patient was discharged from the hospital, with a double antiplatelet therapy recommendation (clopidogrel 75 mg/day + aspirin 75 mg/day). After 20 days the patient came for a follow-up. All necessary investigations were done & reports were normal.



FIGTURE:

A. Coronary angiogram of LCA showing Ostial LM disease;
B. Coronary angiogram of LCA AP Cranial view;
C. Coronary angiogram of RCA showing no significant disease;
D. Guiding Catheter engaged & given intra coronary GTN;
E. After giving GTN fluoroscopic view shows significant disease;
F. Stent advanced in the coronary with Floating wire technique on Left aorto-ostial lesion;
G. Stent inflation;
H. Post-dilatation of the stent;
I. Final angiographic result.

DISCUSSION:

The Pathogenesis of this case is unclear. LMCA intubation was done with diagnostic catheter (JL 6 F), during PCI a guiding catheter (launcher 6F EBU 3.5 SH) was introduced. Iatrogenic LMCA dissection is a complication of PCI. In most cases, this occurs as acute dissections caused by invasive procedures. There are no data concerning LMCA perturbation caused by stenting other coronary arteries and their possible consequences.[1] The endothelial cell dysfunction might be the cause of atherosclerosis. As a consequence of it, LMCA ostial stenosis might have developed in this case. Due to CSA and the location of the lesion, PCI was performed with an optimal effect,

which appeared to be the best solution for the patient. The LMCA ostial stenosis may be the consequence of the previous coronary angiography in other situations. To detect the left main disease, a coronary angiogram is the appropriate tool for diagnosis, which is helpful for long-term prognosis and outcome.

CONCLUSION :

In conclusion, Ostial left main PCI can be performed safely in selected patients. The decision to proceed with PCI versus CABG is best made through a multidisciplinary approach consisting of a clinical cardiologist, interventional cardiologist and a cardiac surgeon (Heart team) 9. It entails consideration of the patient's preferences and expectations, comorbidities, the estimated surgical risk, the complexity of coronary anatomy and the patient's ability to comply with dual antiplatelet therapy.

STUDY LIMITATIONS:

Due to logistic issues IVUS guided PCI cannot be done.

CONFLICTS OF INTEREST:

Nothing to declare

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