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Editorial

SPIRITUALITY AND HEALTH

Care with compassion is inherently a spiritual activity. It calls physicians to walk with people in pain, to be a partner rather than an expert. At the same time people long for their physicians to sit with them and support them in their struggle (1).Some observational studies suggest that spirituality affects the immune response and people who have regular spiritual practices tend to live longer (2,3). Patients who are spiritual may utilize their beliefs in coping with illness, pain, and life stresses. Persons who are spiritual tend to have a more positive outlook and a better quality of life. Spiritual commitment tends to enhance recovery from illness and surgery. In general, it betters health outcomes.

Modern day clinicians regularly overlook dimensions of spirituality when considering the health of others or even themselves (4). National and global health organizations in US have increasingly called for attention to various aspects of spiritual challenges as part of whole-person,culturally competent care (5).Indians are known for this kind of activity when in pain and distress. Professional issues like avoidable medical errors, attrition and higher suicide rates among physicians are of prime concern which can be dealt with spiritual activity. Clinicians can better connect patients and society with health-related resources offered by community organizations. Some of these organizations provide wide range of health promotion activities with respect to smoking cessation, nutrition education, vaccination programs, cancer screening and to address issues related to human immunodeficiency virus and AIDS. These activities provide a sense of spiritual well-being to the clinicians themselves.

World Health Organization has recognized spirituality as a core dimension of palliative care to improve quality of life for patients and families.But in modern scientific environment explicit focus on spirituality considered outside the realm of medicine. Itcan not be denied that spirituality can improve person-cantered approaches to well-beingof patients and clinicians alike. This brings medicine closer to the World HealthOrganization's definition of health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (6).

References:

1. Foglio JP, Brody H. Religion, faith, and family medicine. J Fam Pract 1988; 27:473–474.
2. Strawbridge WJ, Cohen RD, Shema SJ, Kaplan GA. Frequent attendance at religious services and mortality over 28 years. Am J Public Health1997;87:957–961.
3. VandeCreek L, Nye C. Trying to live forever: correlates to the belief in life after death. Journal of Pastoral Care 1994;48(3).
4. VanderWeeleTJ, Li S, Tsai AC, Kawachi I. Association between religious service attendance and lower suicide rates among US women. JAMA

   Psychiatry. 2016;73(8):845-851.
5. Tyler J. Vander Weele, Tracy A. Balboni, Howard K.Health and SpiritualityJAMA. Published online July 27, 2017. doi:10.1001/jama.2017.8136
6. World Health Organization. Constitution of the World Health Organization: principles. http: //www.who. int/ about/mission/en.

Review Article:

Choledochal cysts: A revisit

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ABSTRACT:

Choledochal cyst (CDC) is a rare congenital anomaly of biliary tract where there is dilatation of the extrahepatic and intrahepatic bile ducts. In 1853, Douglas published the first clinical description of a patient with dilatation of common bile duct, which he speculated to be congenital [1]. It was in 1959 when Alonso-Lej, Rover and Pessagno reported first clinical series of 94 cases of choledochal cysts [2]. This dilatation may involve extrahepatic (common) or intrahepatic bile ducts or both. This is a cause of obstructive biliopathy and leads to bile stasis, cholangitis, stone formation, biliary cirrhosis and portal hypertension. Left untreated, there is high incidence of carcinoma in the choledochal cyst in the third and forth decade of life. Total excision of the cyst and biliary enteric anastomosis is the mainstay of treatment. Roux-en-Y hepatico-jejunostomy has been standard drainage procedure. However, in recent times there has been a move towards hepatico-duodenostomy, and its efficacy and safety is established [3]. Laparoscopic cyst excision and repair is feasible but its long term results are not yet established [4,5]. Uncommon varieties (vide classification infra) need different modalities of treatment.

Key words : Choledochal cyst, Roux-en-Y hepaticojejunostomy, Hehaticoduodenostomy

Running title: Saha M: Choledochal cysts.

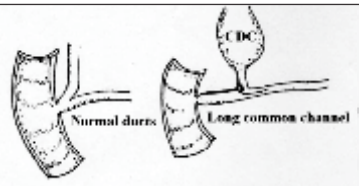
Introduction:

Choledochal cysts are congenital dilatation of the bile ducts which may involve either extrahepatic or intrahepatic ducts or both. It produces bile stasis and thereby leads to cascade of changes including cirrhosis of liver and malignancy. There has been sea progress in its management starting from simple drainage procedure to liver transplantation.

Incidence: More than two-third of all choledochal cysts have originated in Asia. Choledochal cysts are most common in Japan. In Western countries incidence is between 1 in 100,000 and 1 in 150,000 live births. In Asia the incidence is as high as 1 per 1000 hospital admissions. In most series female male ratio varies between 3:1 to 4:1 and in most series the disease is recognized in children below 10 years of age. CDCs are usually diagnosed in childhood and about 25% are detected in adult life[6].

Etiology : Exact etiology of choledochal cyst is not known. There are various theories of choledochal cyst formation: a) It may be due to congenital weakness of common bile duct leading to dilatation, b) Non uniform canalization of the solid stage of development of the bile duct may lead to cyst formation [7], c) anomalous arrangement of pacreatico biliary ductal system is another theory of development of choledochal cyst [8]. This theory was originally suggested by Babbitt [9]. This theory is in vogue, because of the commonly observed long common pancreatobiliary channel in patients with choledochal cyst. This abnormal pancreatobiliary junction allows reflux of pancreatic secretion into biliary system during critical stage of its development (Fig.1).

Fig.1- 1



Chemical and enzymatic destruction of the duct wall leads to cystic dilatation.

Other theories are: distal obstruction leading to dilatation of the proximal bile ducts. Most infants with choledochal cyst have complete or nearly complete obstruction at the level of the duodenum. An abnormality of autonomic innervation of extrahepatic biliary tree is also implicated as possible etiology. This theory has been supported by the fact that, there is decreased number of post ganglionic cholinergic cells in the narrow distal portion of the cyst when compared with the dilated portion.

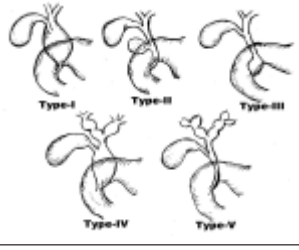
High incidence in oriental population may have genetic predisposition. Prevalence in female hints towards a sex linked inheritence.

An alternative hypothesis of choledochal cysts formation is the infantile obstructive cholangiopathy hypothesis, which suggests that a single process, probably viral (reovirus-3) results in biliary atresia, choledochal cyst, and neonatal hepatitis [10].

Classification:

Alonso-Lej in 1959 first described 3 types of CDCs, type I–III[2]. Later Todani et al. in 1977 modified it by adding type IV and V[11]. Type-I cyst is the most common and constitutes 90- 95 % of the cases, followed by type-IV. Other varieties are rare (Fig.2).

Fig.2- 1



Type I CDCs are further subclassified into 3 types. Type IA is cystic dilation of entire extrahepatic biliary tree with sparing of intrahepatic ducts. Cystic duct and gall bladder arises from the dilated common bile duct (CBD). Type IB is focal, segmental dilation of extrahepatic biliary tree. Type IC is fusiform dilation of entire extrahepatic biliary tree extending into intrahepatic duct. Type II cysts are diverticulum of the CBD, usually occurs at the supraduodenal portion of CBD. Type III CDCs also termed choledochoceles, represents cystic dilation of intramural portion of distal CBD with bulge into the duodenum. Some authors contend it to be a duodenal diverticulum rather than CDCs because of anatomic location and the duodenal epithelium they are lined by [12]. Type IV includes multiple cysts of intrahepatic and extrahepatic bile ducts. Type IV CDCs are further subclassified into type IVA and type IVB. Type IVA is the second most common CDCs and is described by both intrahepatic and extrahepatic dilation of biliary ducts. Type IVB represents multiple dilation of extrahepatic biliary tree only. Type V CDCs, known as Caroli's disease represents multiple dilation of intrahepatic biliary ducts. It is termed Caroli's syndrome when associated with congenital hepatic fibrosis, which then may present with cirrhosis and its manifestations.

Lilly et al. described an entity called “forme fruste” CDCs, where the patients present with typical symptoms of CDCs and are associated with abnormal pancreaticobiliary duct junction (APBDJ) but without dilation of biliary ducts[13].

Pathogenesis:

The classic pathologic features of choledochal cyst are cystic dilatation of the common bile duct, normal liver parenchyma and partial obstruction of the terminal common bile duct. Bile stasis leads to recurrent cholangitis. Progressive stasis leads to biliary cirrhosis, portal hypertension and hepatic failure. Choledochal cysts are thought to be spectrum of embryonic malformations of the pancreatobiliary system, one of which may be abnormal pancreaticobiliary ductal junction and in some cases the cystic component may also be absent. This form of malformation without dilatation is designated as ‘forme fruste’ choledochal cyst. The most legitimate justification for this categorization is the histologic architecture of the extrahepatic bile duct similar to that of the wall of the classical choledochal cyst. Clinical presentation is also identical to other forms of choledochal cyst and is similarly prone to malignant transformation.

Pancreatitis associated with choledochal cyst needs special emphasis. Chronic inflammation and formation of albumin-rich exudates or hypersecretion of mucin from dysplastic epithelium leads to protein plugs in pancreatic duct, which along with distal CBD stone causes pancreatitis [14]. Majority of the patients with elevated serum amylase concentration have diminished clearance rather than clinical pancreatitis. However, a small group of patients there is true pancreatitis, most likely on the basis of protein plug accumulation in anomalous pancreaticobiliary ductal syatem[15]. Also pancreatic divisum is occationally encountered in some patients with choledochal cyst.

Bile stasis has been implicated in carcinogenesis. Bacteria present because of bile stasis deconjugate primary bile acids. One of the secondary bile acids, lithocholate, is known carcinogen. Malignancy occurs as a result of chronic inflammation, cell regeneration, and DNA breaks leading to dysplasia. Pancreatic reflux is also supposed to cause K-ras mutation, cellular atypia, P53 over expression, and carcinogenesis [16]. Malignancy is observed in extrahepatic duct in 50–62% patients, gall bladder in 38–46% cases, intrahepatic duct in 2.5% cases, and in liver and pancreas in about 0.7% cases. Todani et al. observed 68% of malignancy in type I, 5% in type II, 1.6% in type III, 21% in type IV, and 6% in type V CDCs[17]. Malignancy in Caroli's disease is reported to be about 7–15% and in choledochoceles about 2.5%. Incidence of biliary carcinoma is 20 times higher than in the general population. Carcinoma typically occurs in third and forth decade of life. Malignancy risk is age dependant and has been estimated to be 0.7% in the first decade, 7% in the second decade and 14% after 20 years of age [18]. Risk of malignancy is greater in patients who have been treated by internal drainage procedure (cyst-enterostomy). However, even after cyst excision malignancy may occur in residual extrahepatic duct or in the dilated intrahepatic ducts, indicating the need for lifelong surveillance.

Clinical features: Clinically, there are two distinct types of presentations. Infantile type presents at 1 to 3 months of age with obstructive jaundice, acholic stool, and hepatomegally, with a picture indistinguishable from that of biliary atresia. Hepatobiliary scintigraphy can differentiate these two conditions. The so-called adult type do not manifest until after the child is 2 years of age; and most of these patients are without high grade or complete obstruction. Classical triad of pain, jaundice and lump abdomen is found in a small group of patients in this category. An 85% of children have at least 2 features of classic triad, whereas only 25% of adults present with at least 2 features of the classic triad. Neonates detected antenatally are usually asymptomatic at birth but it has to be intervened early before the onset of complications.

Diagnosis:

Ultrasonography usually first picks up the case (Fig.3). Now-a-days more and more cases are diagnosed early in life, mainly because of awareness amongst pediatrician and radiologists. Prenatal diagnosis of choledochal cyst has been reported by number of investigators [19, 20]. But antenatal sonography is only a screening test and must be confirmed by postnatal sonography. Multi-detector CT scan gives excellent delineation of the cyst and its relationship with the surrounding structures but not ideal for the pancreatico-biliary ductal system. ERCP gives real image of the cyst and ductal system and provides road-map for surgery [21], but it is invasive and suitable size instrument and expertise is not readily available for smaller children. In recent years MRCP has become popular as replacement for ERCP because it is noninvasive [22]. It provides excellent delineation of the cyst as well as anatomy of both intra and extrahepatic bile ducts (Fig.4). But it is not readily available, costly and needs general anesthesia for infant and children. Hepatobiliary scintigraphy can confirm the diagnosis of choledochal cyst and also provide information about bile drainage, obstruction, and hepatic function. It can be performed in newborn as well.

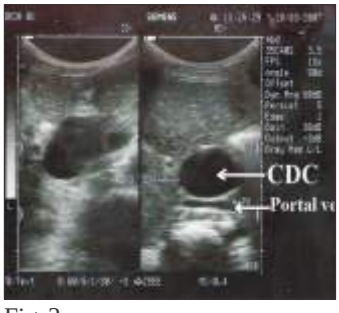


Fig. 3

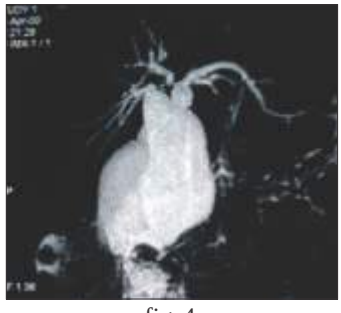
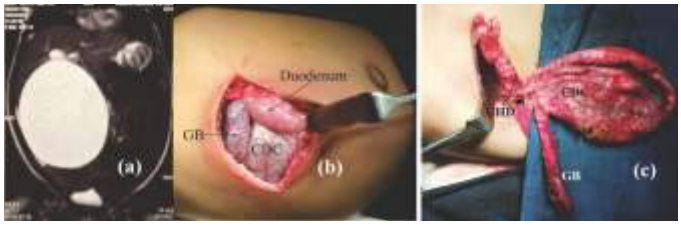


fig. 4

Management:

Cyst excision into is the mainstay of treatment (Fig.5).

Fig.5 : a, b, c



But consensus opinion regarding ideal drainage procedure is yet to be reached. Cyst excision and hepatico-jejunostomy is most widely practiced but hepatico-duodenostomy is a viable alternative. Though in 1924, McWhorter published the first report of excision of choledochal cyst [23], most of the surgeons preferred cyst drainage procedures in the form of cystoduodenostomy and cystojejunostomy as cyst excision was considered difficult and it was associated with high mortality. But major drawback of these cyst drainage procedure remained recurrent cholangitis and long-term risk of cancer in the remaining cyst. In 1970, Kasai and colleague [24] and Ishida and co-worker [25] reported favorable result with cyst excision and Roux-en-Y hepaticojejunostomy and subsequently it became the standard treatment for choledochal cyst.

Visser et al. observed malignancy in 30% of adult patients who had previously undergone cystenterostomy for CDCs [26]. So complete excision of the cyst and biliary diversion is the surgery of choice.The patients who had undergone previous cystenterostomy should be reoperated for complete resection of cyst and biliary diversion as early as possible. Chaudhary et al. in their review with patients who had undergone internal or external drainage for CDCs previously suggested that reoperation is possible in these patients.

After cyst excision biliary enteric drainage can be achieved either by hepatico-jejunostomy or by hepatico-duodenostomy.

There are conflicting results about hepaticoduodenostomy (HD) in the literature. Shimotakahara et al. in their report on 28 cases of roux-en-Y hepaticojejunostomy (RYHJ) and 12 HD concluded that HD in not ideal for biliary reconstruction in CDCs because of a high incidence of complications (33%) due to duodenogastric bile reflux [27]. Elhalaby et al and Mukhupadhyay et al opine that HD **(Fig.6)** may be preferred due to shorter operative time and avoidance of intestinal anastomosis but more patients with HD are required before reaching a solid conclusion.[3,28] Recently Liem et al. reported their experience of laparoscopic HD in 74 patients, in which cholangitis was observed in 3 patients (5.3%) and gastritis due to bile reflux in 8 patients (14.3%) [29]. However, the follow up period was just between 3 months and 1 year. Although they opine it to be a safe and physiologic procedure, long-term results are awaited for better conclusions.

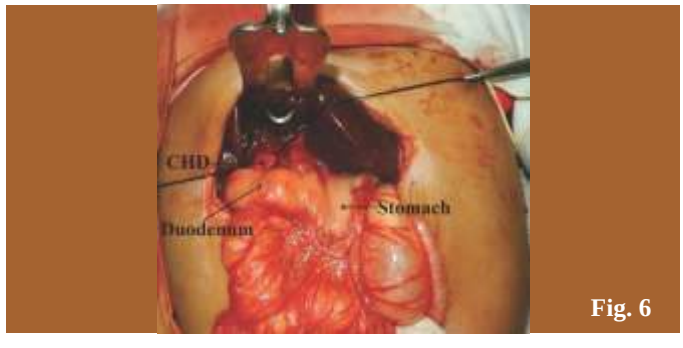


Fig. 6

Laparoscopic excision and reconstruction is feasible [30] but long term results are yet to be determined. Jeffrey et al., in their review of 13 pediatric patients, concluded that laparoscopic resection of CDCs with total intracorporeal reconstruction of biliary drainage is a safe and effective technique [4]. Palanivelu et al. reported the largest series on laparoscopic treatment of CDCs in adults. In their review of 35 patients, including 16 adults, they found that laparoscopic surgery for CDCs is safe, feasible, and advantageous [5]. Liem et al. have reported their experience with 74 cases of

laparoscopic HD for CDCs and have opined it to be a safe and physiologic procedure [29]. But the long-term implication of laparoscopic surgery is yet to be reported and controlled trials comparing the open and laparoscopic approach is yet to be reported.

Rare types: The surgical approach in type IVA is still debatable. Visser et al. suggested excision of extrahepatic component only with hepaticojejunostomy in case of type IVA CDCs irrespective of the changes [26]. However, in case of extensive intrahepatic dilation with complications, such as stones, cholangitis, or biliary cirrhosis, other options, such as hepatic resection in case of unilobar disease and liver transplantation in bilobar disease should be considered.

Type II CDCs are managed by simple excision. Usually these cysts are ligated at the neck and excised without the need for bile duct reconstruction. Type III CDCs were historically treated by transduodenal excision and sphincteroplasty. Smaller lesions have been treated by deroofing and sphincteroplasty or by endoscopic sphincterotomy.

In Caroli's disease, when the intrahepatic duct dilation is localized and without congenital hepatic fibrosis, segmental hepatectomy can be done. Percutaneous or endoscopic drainage and stent are used for palliative treatment. For diffuse disease with life-threatening complications, liver transplantation should be considered. In a review of 110 cases of liver transplantation for Caroli's disease or syndrome, a 5-year patient and graft survival was observed to be 86% and 71%, respectively [31].

Preliminary drainage is helpful in patient with cyst rupture or uncontrolled cholangitis.

Large choledochoceles (type-III cysts) can be excised transduodenally. A type-V cyst confined to one side of the liver can be treated by hepatic lobectomy. More diffuse varieties may need liver transplantation.

Perforation of choledochal cyst is rare. Abdominal pain and distension, vomiting, fever, mild jaundice and progressive ascites are typical features. Definitive treatment may be possible at diagnosis but initial drainage and delayed surgery is safer option [32].

Cyst excision and hepaticojejunostomy yields consistently good result, even in small infants. Successful treatment can lead to regression of hepatic fibrosis and even early biliary cirrhosis.

Early post operative complications such as anastomotic leakage and intestinal obstruction are rare. Late complications are uncommon, but include cholangitis, anastomotic stricture, intrahepatic and common channel calculi, pancreatitis, adhesive bowel obstruction, and very rarely malignancy.

As more and more cases of choledochal cysts are diagnosed prenatally, question arises about the optimum timing for surgery. Redkar and associate suggested that asymptomatic patients are best operated at 3 months of age [33]. Suita and co-worker have noted that patients operated within a month of life have a lower incidence of hepatic fibrosis then those operated at later age, indicating that earlier than 3 months may be desirable [34].

References:

1. Douglas AH. Case of dilatation of common bile duct. Monthly J Med Csi (London). 1852;4:97
2. Alonso Lej T, Rover WD, Pessango DJ. Congenital choledochal cyst, with a report of 2, and analysis of 94 cases. Surg Genecol Obstet Abst Surg. 1959;108: 1
3. Mukhopadhyay B, Shukla RM, Mukhopadhyay M, Mandal KC, Mukherjee pp et al. Choledochal cyst: A review of 79 cases and the role of hepaticodochoduodenostomy. J Indian assoc Pediatr Surg. 2011; 16: 54-57
4. Gander JW, Cowles RA, Gross ER, Reischtein AR, Chin A, Zitsman JL, et al. Laparoscopic excision of choledochal cysts with total intracorporeal reconstruction. J Laparoendosc Adv Surg Tech. 2010; 20: 877-81.
5. Palanivelu C, Rangarajan M, Parthasarathi R, Amar VA, Sentilnathan PA. Laparoscopic management of choledochal cyst: Technique and outcomes- A retrospective study of 35 patients from a tertiary center. J am Coll Surg. 2008; 207:839-46
6. Liu CL, Fan ST, Lo CM, Lam CM, Poon RT, Wong J. Choledochal cyst in adults. Arch Surg 2002; 137; 465-8
7. Yotsuyanagi S, Contribution to etiology and pathology of idiopathic cystic dilatation of the common bile duct with report of three cases. Gann 1936; 30: 601.
8. Todani T et al. Anomalous arrangement of pancreatico biliary ductal system in patients with choledochal cyst. Am J Surg. 1984; 147:672.
9. Babbitt DP. Congenital choledochal cyst: new itological concept based on anomalous relationship common bile duct and pancreatic duct. Ann Radiol. 1969;12:231.
10. Landing BH. Consideration of the pathology of neonatal hepatitis, biliary atresia and choledochal cyst- the concept of infantile obstructive cholangiopathy. Prog Pediatr Surg. 1974;6:113-119.
11. Todani T, Watanabe Y, Narusue M, Tabuchi K, Okajima K. Congenital bile duct cysts: Classification, operative procedures, and review of thiry-seven cases including cancer arising from choledochal cyst. Am J Surg. 1977;134:263-9
12. Gorestein L, Stresberg SM. Etiology of choledochal cysts: Two instructive cases. Can J Surg. 1985; 28:363-7.
13. Lilly JR, Stellin GP, Karrer FM. Forme frusta choledochal cyst. J Pediatr Surg. 1985;20:449-51.
14. Nakano K, Mituza A, Oohashi S, Kuroki S, Yamaguchi K, Tanaka M et al. protein stone formation in an intrapancreatic ramnant cyst after resection of choledochal cyst. Pancreas. 2003; 26: 405-7.
15. Narsimhan KL, Choudry SK, Rao KNL. Management of asseccory hepatic duct in choledochal cyst. J Pediatr Surg. 2001; 36: 1092-1093.
16. Iwasaki Y, Shimoda M, Furihata T, Rokkaku K, Sakuma A, Ichikawa K, et al. Biliary papillomatosis arising in a congenital choledochal cyst: Report of a case. Surg Today. 2002;32: 1019-22.
17. Todani T, Watanabe Y, Fujii M, Toki A, Uemara S, Koike N, et al. Carcinoma arising from the bile duct in choledochal cyst and anomalous arrangement of the pancreaticobiliary ductal union. Biliary Tract pancreas. 1985;6: 525-35.
18. Voyles CR, Smadja C, Shands WC, et al. Carcinoma in

choledochal cyst: age related incidence. Arch Surg 1983; 118: 986-988.

19. Lugo-Vicente HL: Prenatally diagnosed choledochal cyst: observation or early surgery ? J Pediatr Surg, 1995;30: 1288-1290.
20. Mackenzie TC, Howell LI, Flake AW, Adzick NS. The management of prenatally diagnosed choledochal cyst. J Pediatr Surg 2001; 36: 1241-1243.
21. Wilkinson M. The atr of diagnostic imaging; the biliary tree. J Hepatol. 1996;25(suppl-1):5-19.
22. Kim MJ, Han SI, Yoon CS, et al. Using MR cholangiograghy to revel anomalous pancreaticobiliary ductal union in infant and children with choledochal cyst. Am J Roentgenol. 2002;179:209-214.
23. McWhorter GL. Congenital cystic dilatation of common bile duct: report of a case with cure. Arch Surg. 1924;8: 604-624.
24. Kasai M, Asakura Y, Taira Y. Surgical treatment of choledochal cyst. Ann Surg 1970;172:844-851.
25. Ishida M, Tsuchida Y, Saito S, et al. Primary excision of choledochal cyst. Surgery 1970;68: 884-888.
26. Visser BC, Suh I, Way WL, Kang SM. Congenital choledochal cyst in adults. Arch Surg. 2004;139: 855-62.
27. Shimokatahara A, Yamataka A, Yanai T, Kobayashi H, Okazaki T, Lane GL, et al. Roux-en Y hepaticojejunostomy or hepaticoduonenostomy for biliary reconstruction during the surgical treatment of choledochal cyst: which is better ? Pediatr Surg Int. 2005;21:5-7.
28. Elhanaby E, Hashish A, Elbarbary M, Elwagih M. Roux-en-Y hepaticojejunostomy versushepaticoduodenostomy for biliary reconstruction ahter excision of choledochal cyst in children. Ann Pediatr Surg. 2005; 1: 79-85.
29. Liem NT, Dung Ie A, Son TN. Laparoscopic complete excision and hepaticoduodenostomy for choledochal cyst: Early results in 74 cases. J laparoendosc Adv Tech A. 2009;19: 587-90.
30. Tanka M, SimiZu S, Mizumoto K. et al. Laparoscopically assisted excision of choledochal cyst and Roux-en-Y reconstruction. Surg endosc. 2001;15: 545-551.
31. De Kerckhove L, De Meyer M, Verbaandert C, Mourad M, Sokal E, Goffette P. etal. The place of liver transplantation in Caroli's disease and syndrome. Transpl Int. 2006;19:381-8.
32. Karnak I, Tanyel FC, Buyukpamukcu N. et al. Spontaneous rupture of choledochal cyst: an unusual cause of acute pain abdomen in children. J Pediatr Surg. 1997; 32: 736-738.
33. Redkar R, Davenport M, Howard ER. Antenatal diagnosis of congenital anomalies of biliary tract. J Pediatr Surg. 1998;33: 700-704.
34. Suita, Shono K, Kinugasa Y, et al. Influence of age in the presentation and outcome of choledochal cyst. J Pediatr Surg 1999;34:1765-1768.

Original Article

Primary spontaneous pneumothorax : Observation and needle aspiration as initial treatment modalities

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ABSTRACT:

Background: Primary spontaneous pneumothorax (PSP) occurs without any pre-existing lung diseases. Treatment of such cases ranges from simple observation to placement of intrapleural catheter. The present study evaluates the role of the observation and the simple needle aspiration as the initial treatment modality for PSP.

Materials & methods: All patients presenting with first episode of PSP in a tertiary care centre since December, 2014 till December, 2016 were included in the study. All small pneumothoraces were treated by observation and oxygen administration alone and all large pneumothoraces were initially treated by needle aspirations (NA). Insertion of a thoracostomy tube was considered if the above treatment modalities failed.

Results: Of the total 15 cases presenting with PSP, 4 had small and 11 had large PSPs. All the 4 cases with small PSPs responded to conservative management. Of the 11 cases with large PSPs, 7 cases responded to NA and the 4 cases in which this treatment failed needed insertion of a thoracostomy tube on the 2nd day of treatment. Average hospital stay of the successful cases in both the groups was 3 days. The patients were followed up for a variable period of time following discharge from the hospital and were doing well.

Conclusion: Conservative management for small PSPs and NA for large PSPs is effective mode of treatment in the initial stage. Only selective group of patients withPSPs may need invasive treatment in the form of thoracostomy tube insertion.

Key words: Pneumothorax; primary spontaneous pneumothorax; tube thoracostomy; needle aspiration.

Introduction:

Presence of air in the pleural cavity is called pneumothorax. It is classified into two groups, (i)spontaneous (when occurs without any history of trauma) and (ii) traumatic (whenoccurs following trauma). Spontaneous pneumothorax which occur without any clinically apparent lung disease is called primary spontaneous pneumothorax (PSP), whereas, secondary spontaneous pneumothorax (SSP) occurs as a complication of pre-existing lung disease.Primary spontaneous pneumothorax is the result of rupture of sub pleural blebs, which are typically found at apex of the upper lobe [1]. Annual incidences of PSP are 7.4 per 100,000 per year for men and 1.2 per 100,000 per year for women[2]. Usual sufferers of PSP are young patients, the peak age of occurrence being between 20 and 30 years[3]. The occurrence of PSP in a tall individual with an asthenic built has been observed[4]. Smoking may a risk factor as 89% of the patients are smokers [5]. A positive family history is recorded in approximately 10% cases of PSP and mutation of FLCN gene may be the cause in some of the cases[6].

Most of the major guidelines have developed a consensus that the first episode of small PSP in clinically stable patients can be managed by observation alone [7,8]. However, treatment of large PSPs differs from centre to centre. Individual centre has to develop their own protocol for treatment of such cases depending on their own resources [9].

Compared to other procedures, needle aspiration (NA)isa simple, safe, and cost effective and has been recommended as an initial procedure for the first episode of large pneumothorax by many guidelines. Other options are considered only after failure of NA [10,11]. However some other studies suggested chest tube or pleural catheter placement as a preferred treatment option over NA[8]. The present study was aimed to assess the efficacy of the observation in the first episode of a small PSP and the simple needle aspiration (NA) as the initial management of first episode of a large PSP.

Material and method : This retrospective study was conducted in CTVS unit of Assam Medical College and Hospital, Dibrugarh and themedical records of first episode of PSP patients treated in CTVS Unit of Assam Medical College and Hospital during December 2014 to December 2016 were reviewed. Children below 15 years of age, bilateral pneumothorax, tension pneumothorax, hydropneumothorax, patients on ventilator, and very sick patients were excluded from the study.

All first episode ofsmall primary spontaneous pneumothorax were grouped into small and large pneumothoraces based on the criteria of quantification of pneumothoraces recommended by the British Thoracic Society. All small pneumothoraces were treated by simple observation and oxygen administrationwhile all large pneumothoraces were initially treated by needle aspiration (NA).

The procedure of needle aspiration: Patient was placed in semi recumbent position. Procedure was performed under all aseptic and antiseptic measure. After infiltration of area with 2% lignocaine (local anaesthetia), a 16 G Intravenous cannula was introduced into the pleural cavity of the affected hemithorax through 2nd intercostals spaceof in mid-clavicular line. The needle of the IV cannula was withdrawn and 3-way stop clock was connected with it. Aspiration of air was started with a 50 ml syringe connected to the cannula. Volume of air evacuated was recorded. Procedure was terminated after (i) feeling of resistance to aspiration or no more air could be aspirated (ii)patient became breathless or when(iii) air continued to come out even after removal of 3000 ml of air from pleural cavity.Intravenous cannual was immediately withdrawn after the procedure.

Observation was considered successful, if repeat chest x-ray done 24 hrslater showed either regression or didnot show progression of pneumothorax .Progression ofpneumothorax was considered as a failure.

Needle aspirationwas considered successful if repeat chest X-ray taken after 24 hrs of the procedureshowed complete disappearance of pneumothorax or the residual pneumothorax left behind after aspiration was small (according to BTS criteria) (air rim < 2cm.). Aspiration was considered a failure, if residual pneumothorax in repeat chest X-ray was large.

Failed cases were treated by thoracostomy tube drainage.

All the successful cases were instructed to attend OPD or ward on the 7th day after aspiration and afteronemonth, 3 months, 6 months and I2th months of discharge.

Results: Total 15 patients of PSP(4 case of small PAPs and 11 cases of large PSPs), age ranged from 16 years to 32 yearswere included in the study. Tenof them were smokers (Table 1).

Table-1: Particulars of patients in both the groups

CHARACTERISTIC of PSP patients	OBSERVATION (Small PSP)	NA (Large PSP)
Total No of patients	4	11
Sex=M/F	3/1	9/2
Age in years	18-30	16- 32
Smoking status: yes/No	(average 24 yrs) 2/2	(average 23.4 yrs) 8/3
Total Patients	Total cases=15	

All patients had chest pain, only 5 cases with large PSPs had dyspnoea(Table-2)

Table-2: presenting symptoms

Symptoms	Small pneumothorax	Large pneumothorax
Pain	4	11
Dyspnea	Nil	5
both	Nil	5

In cases with small PSPs, follow up chest X-ray (done after 24 hrs) showed reduction in the size of pneumothorax in all of them. All of them were discharged from the hospital on third day and were called for regular follow up. There was reduction of in the volume of air on the 1st follow up and by one month, pneumothoraxhad resolved in all small PSPs.

Of the large PSPs, NA was abandoned in one case as aircontinued to come out on aspirationeven after aspirating 3 liters of air.NA was successful in 7 cases as confirmed on follow up x-ray and all these cases were discharged on 3rd day. Failed patients were treated by insertion of intercostal drainage tube on 2nd day. Two of the 7 successful patients never turned up for check up; 5 patients were followed up for more than a year. One had recurrence at 5th month and another had recurrence at 7th month.All the tube thoracostomy cases came for regular follow up and no recurrences were noted.

DISCUSSION:

There are different therapeutic options for the first episodes of PSPs and the best treatment options remains to be evaluated[9]. In this study, all small PSPs were kept under observation while all large pneumothoraces were initially treated by NA.

Size of the pneumothorax is commonly determined on the basis of PA View of chest.However methods of quantification are not uniform. We have followed the guidelines of the British Thoracic Society which consider pneumothorax as a small one, if rim of air visible between collapsed lung margin and chest wall is less than 2 cms and a large one, if it is equal or greater than 2cms.[10]. The American College of Chest Physicians measure rim of air between apex of the collapsed lung to cupola and define a pneumothorax as small if distance is less or equal to 3 cms and large if same is more than 3 cms[8]. Several alternative methods to measure size of pneumothorax are also proposed.However the best method of measurement is by CT scan of thorax[12].

General consensus for management of a small pneumothorax is observation[8,13,14, 15].Some authors advocate observation in emergency department for 3 hrs to 6 hrs and discharge the patient after the period of observation,if repeat chest X-ray excludes progression of the lesion. They are given instructions to attend

emergency department immediately if they develop difficulty in breathing. Even in absence of breathing difficulty, they are instructed to revisit hospital for review and repeat chest radiograph within 12 hrs to 2days. However, a patient should be admitted for observation, if he cannot attend emergency department immediately because of distance of his residence from hospital or patient is not reliable in follow up care[8]. Because of far distance of their residence from our hospital, we admitted all small pneumothoraces in our hospital.

In our study none of the small PSP showed any progression of pneumothorax and complete absorption air from pleural cavity was noted in all of them after one month. In a large series,over 80% of patients were successfully managed conservatively without any intervention and hospitalization. The mean time taken for complete absorption of air in that study was 22 days[13].

Basic principle of observation is based on the fact that spontaneous absorption of air takes place from pleural space. According to one data, rate of spontaneous absorption is slow and about 1.25% of the volume of air from the hemithorax is absorbed daily. Therefore, ifair leak has stopped intoa pleural cavity and it occupiesonly 15% of a hemithorax, its absoptionfrom the pleural cavity will be complete in 12 days[1]. Administration of oxygen increases absorption of air by fourfold and hence many author advocate routine use of oxygen at high concentration [16].

NA was the initial procedure performed for all large pneumothoraces in our studyand was successful in 63.7% cases. Documented Success rate of simple aspiration in different studies ranges from 66.7 to 92.6%[17].Many studies had compared efficacy of manual aspiration with that of thoracostomy tube drainage in first episodes of PSP, and found no significant difference between two procedures in terms of success[18,19].

The cost of the treatment of a pneumothorax has become one of the important factors in planning a treatment protocol [20].Our requirements for NA were only a 16 gauge cannula, a 50cc syringe, a three-way tap and local anaesthetia. Placement of thoracostomy tubes require a large number of articles which increases the cost of the treatment [17]. The duration hospital stay after NA is much less when compared to that after thoracostomy tube drainage[(21,22] and it also reduces the cost of treatment [18].Many authors performed NA as an outpatient procedure to reduce cost of therapy. However risk of discharging a patient with PSP is not known and is a cause of apprehension to the treating physician. [17]. Therefore, we routinely admitted all patients.We did not evaluate total pain scores and analgesic requirement in our study. But other studies have shown that NA is less painful than thoracostomy drainage procedure[19].

We did not encounter any complication of simple aspiration in our study. It is rarely reported in literature. When 800 cases of simple aspiration of pneumothorax war reviewed, only few complications were noted (six cases of subcutaneous emphysema, twovasovagal reactions, one haemothorax and two cases of retained catheter tips) and therefore rate of complications is about 1% only[18]. In contrast to simple aspiration, placement of chest tube is associated with higher complication rate. According to one study, rate of early complications of thoracostomy tube placement is 3% and that of late complications(complications reported after 24 hrs of placement of thoracostomy tube) is 8% in non-trauma patients[23].

If air continues to come out even after aspiration of 2.5 Lfrom pleural cavity, persistent air leak is a probable underlying cause and hence lung re-expansion is unlikely to occur after NA. If air leak continues, even repeat NA is unlikely to be successful and they are candidates for insertion of chest tube drainage [18].There are authors who even recommended thoracoscopic management for all symptomatic patients with PSPs [24]. However 50% of the first episode of PSP will usually never recur and hence this approach is criticized as an unnecessaryand very aggressiveoption for managementfor a first episode [1].

In our study, many of our patients were lost for follow-up and hence true rate of recurrence could not be commented. The documented average rate recurrence of the first episode of PSP is about 30% (range of recurrence being 16% -52%)and it is not dependent on the type of treatmentoffered for the episode (by observation, aspiration or thoracostomy drainage) [20].Current guidelines do not generally advocate any recurrence prevention treatment for first episode of PSP [8, 10].

Our study concludes that the observation for small PSP and the NA for the large PSP is safe, simple, and effective procedure and requires lesser hospital stay. Hence the observation and the NA should be the preferred initial treatment for small and large PSP respectively and thoracostomy drainage should be inserted only after failure of the above procedures.

References:

1. Light RW. Pneumothorax. In : Light RW. Pleural Diseases, 4th ed, Philadelphia, Lippincott Williams & Wilkins, 2001: 284-317.
2. Melton LJ 3rd, Hepper NG, Offord KP. Incidence of spontaneous pneumothorax in Olmsted County, Minnesota: 1950 to 1974. Am Rev Respir Dis. 1979;120(6):1379-82.
3. Dhua A, Datta Chaudhuri A, Kundu S, Roy TS, Bhuniya S, Ghosh B etal. Assessment of spontaneous pneumothorax in adults in a tertiary care hospital. Lung India. 2015; 32:132-6.
4. Gupta KB, Mishra DS, Tandon S, Sindhwani G, Tanwar T. Role of Chest CT Scan in Determining Etiology of Primary Spontaneous Pneumothorax. Indian J Chest Dis Allied Sci 2003; 45: 173-7.
5. Primrose WR. Spontaneous pneumothorax: a retrospective review of aetiology, pathogenesis and management. Scott Med J 1984;29:15-20.
6. Graham RB, Nolasco M, Peterlin B, Garcia CK. Nonsense mutations in folliculin presenting as isolated familial spontaneous pneumothorax in adults. Am J Respir Crit Care Med. 2005;172(1):39–44.
7. MacDuff A, Arnold A, Harvey J. Management of spontaneous pneumothorax: British Thoracic Society pleural disease guideline 2010. Thorax 2010; 65: Suppl. 2, ii18–ii31.
8. Baumann MH, Strange C, Heffner JE, et al. Management of spontaneous pneumothorax: an American College of Chest

Physicians Delphi consensus statement. Chest 2001; 119: 590–602.

9. Al-Qudah A. Treatment options of spontaneous pneumothorax. Indian J Chest Dis Allied Sci. 2006;48(3):191–200.
10. Henry M, Arnold T, Harvey J. BTS guidelines for the management of spontaneous pneumothorax. Thorax 2003; 58: Suppl. 2, ii39–ii58.
11. Rivas de Andrés JJ, Jiménez López MF, Molins López-Rodó L, Pérez Trullén A, Torres Lanzas J. Guidelines for the diagnosis and treatment of spontaneous pneumothorax. Arch Bronconeumol. 2008 Aug; 44(8):437-48.
12. Collins C, Lopez A, Mathie A, Wood V, Jackson J, Roddie M. Quantification of PneumothoraxSize on Chest Radiographs Using lnterpleural Distances: RegressionAnalysis Based on Volume Measurementsfrom Helical CT. AJR: 1995; 165:1127-30.
13. Stradling P, Poole G. Conservative management of spontaneous pneumothorax. Thorax 1966;21:145–9.
14. Andrivert P, Djedaim K, Teboul J-L, Brochard L, Dreyfuss D. Spontaneous pneumothorax: comparison of thoracic drainage vs immediate or delayed needle aspiration. Chest 1995; 108:335–40.
15. McEwen JI. Pleural disease. In: Rosen P, editor Emergency Medicine: Concepts and Clinical Practice; 4th edn. St Louis: Mosby Year Books; 1998:1518-20.
16. Northfield TC. Oxygen therapy for spontaneous pneumothorax. Br Med J. 1971; 4:86-8.
17. Devanand A1, Koh MS, Ong TH, Low SY, Phua GC, Tan KL, Philip Eng CT, Samuel M. Simple aspiration versus chest-tube insertion in the management of primary spontaneous pneumothorax: a systematic review. Respir Med. 2004 Jul; 98:579-90.
18. Noppen, M, Alexander, P, Driesen, P, Slabbynck, H, and Verstraeten, A. Manual Aspiration versus Chest Tube Drainage in first episodes of primary spontaneous pneumothorax. Am J Respir Crit Care Med. 2002; 165: 1240–4.
19. Harvey, J. Prescott, R.J. Simple aspiration versus intercostal tube drainage for spontaneous pneumothorax in patients with normal lungs. BMJ. 1994; 309: 1338–9.
20. Schramel FM, Postmus PE, Vanderschueren RG. Current aspects of spontaneous pneumothorax. Eur Respir J 1997;10:1372-9.
21. Ayed AK, Chandrasekaran C, Sukumar M, et al. Aspiration versus tube drainage in primary spontaneous pneumothorax: a randomised study. Eur Respir J 2006;27:477–82.
22. Masood I, Ahmad Z, Pandey DK, Singh SK. Role of simple needle aspiration in the management of spontaneous pneumothorax. J Assoc Phys Ind 2007; 55:628–9.
23. Collop, N.A, Kim, S, and Sahn, S.A. Analysis of tube thoracostomy performed by pulmonologists at a teaching hospital. Chest. 1997; 112: 709–13.
24. Schramel FM, Sutedja TG, Braber JC, van Mourik JC, Postmus PE. Cost-effectiveness of video-assisted thoracoscopic surgery versus conservative treatment for first time or recurrent spontaneous pneumothorax. Eur Respir J 1996; 9:1821–5.

Original Article

Potency Outcome Following Repair Of Fracture Penis

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ABSTRACT:

Penile fracture is the disruption of the tunica albuginea with rupture of the corpus cavernosum . Fracture typically occurs during vigorous sexual intercourse , trauma to erect penis.The aim of our studyis to assessthe potency outcome following surgical repair of fracture penis.Materials and methods:We studied 18 patients in the age group of 20-42 years(Mean-32.45 years) from 2005 to 2016. The cause of fracture were improperhandling of erected penis in 6 patients,fall on an erected penis in7 patient and vigorous sexual intercourse in 5 patients.Time of presentation ranged from <12 hoursto >6 days.They presented withswelling and pain in the penis and 1 patient had hematuria.Intra operatively,tunica albugenia and corpora cavernosa were found to be ruptured; right sided posterior-medial aspect in 11 patients and left sided posterior-medial aspect in 7 patients. One patient had urethral injury.All patients were discharged on the next post-operative day, except 1 patient with urethral injury.Follow up was done at 4 weeks and 6 months. Results: At 1 month follow-up16 patients had morning erection.No patients had voiding difficulty, 16-patients had fibrous nodule at repair site. All patients had USG doppler of penis, 16 patients had normal baseline monophasic flow in cavrnousal arteries, noabormal vascularitynoted in B/L corpora cavernosa.At 6 months, 5 patients were lost tofollow-up; 13 patients had morning erection with no erectile dysfunction (ED) in 11/13(84.61%) patients, mild ED in 1/13 (7.69%) patientand moderate ED in 1/13(7.69) patient. Erectile dysfunction in 2 patients improved on medication.Conclusion:Penile fracture though uncommon,the diagnosis is straightforward. Fracture penis must be repaired as promptly as possible.Immediate surgical reconstruction results in faster recovery, decreased morbidity, lower complication rates, and lower incidence of long-term penile curvature than delayed repair with preservation of erectile function.

Key words: Penile fracture, Sexual intercourse,Repair,Potency, erectile dysfunction.

Running title: TPRajib et al.: Potency after repair of fracture penis.

INTRODUCTION:

Penile fracture is a relatively uncommon condition and is defined as the rupture of the corpus carvernosum and or the corpus spongiosum caused by blunt trauma to the erect penis. This excludes penetrating and degloving injuries or amputation of the flaccid penis. The exact incidence is unknown [1].Vaginal intercourse is the most common known cause of penile fractures, with frequency of 33–58% of all injuries [2].A large percentage of the cases is due to forceful bending of the erect penis to achieve detumescence, a practice known as ‘Taghaandan’ in middle eastern countries.The diagnosis of penile fracture is based on the patient's history and clinical findings. At the time of the fracture, the patient (and sometimes the sexual partner) typically hears a loud cracking noise associated with loss of erection, penile pain and swelling [3].A palpable tunical defect and a hematoma with a "rolling sign" are pathognomonic of features [4]. It truly represents a Urological emergency [5].All recent reports favor early surgical repair to achieve adequate functional and cosmetic results with minimal complications and this is in contrast to old reports favoring conservative management [6]. This is because conservative treatment is associated with very high complication rates reaching as high as 53% of patients [7].Still many patients seek medical treatment at later stage because of social embarrassment or lake of knowledge about the condition.

MATERIALS AND METHODS:

We studied allthe patients who presented with fracture penis to the Department of Urology , Gauhati Medical College and Hospital, Guwahati from 2005 to 2016. We evaluated them with clinical history about duration, mode of injury and presence of associated haematuria. We examined them about the size, shape, direction of shaft of the penis and presence of haematoma along with complete general and systemic examination. Laboratory evaluations included urine routine examination and culture and sensitivity, Hb %, total leucocyte count , differential leucoycte count , erytrocyte sedimentation rate, blood sugar, blood urea and serum creatinine. We routinely performed Doppler ultrasound of the penis to know the exact site of the defect in tunica albuginia and blood circulation. All the patients were subjected to repairof the tunica albuginial defect on emergency basis.Tunica repair was done with 2-0 polyglactincontinuous sutures and urethral repair was done with 4-0 polyglactin. In all patients repair were done over Foley's catheter which was removed on first postoperative day except in patient with urethral injury in whom urethral catheter was removed on 14th post operative day. Follow up was done at 1 month and 6 months after repair which included history about morning erection and Dopplerstudy ofthe penis.

RESULTS:

Total number of patients was18, from 2005 to 2016. Patients age ranges from 20-42 years(Mean-32.45 years) .The cause of fracture in our study were improper handling of the erected penis in 6 patients, fall on an erected penis in 7 patient and vigorous sexual intercourse in 5 patients.Time of presentation ranged from less than 12 hours to >6 days after injury (table 1 and figure 1).

Time of presentation	No of patients
<12 hours	3
12 -72 hours	5
72 hours to 6 days	8
>6 days	2

Table 1 : Time of presentation in our study

Patients presented with swelling and pain in the penis (Fig.2). One patient had hematuria. All patients underwent emergency repair of the tunical defect under spinal anaesthesia. Intra operatively, tunica albugenia and corpora cavernosa were found to be rupturedon right sided posterior-medial aspect in 11 patients and on left sided posterior-medial aspect in 7 patients (Fig.3). One patient had urethral injury.Post operative period was uneventfull and all patients were discharged on the next post-operative day, except 1 patient with urethral injury.

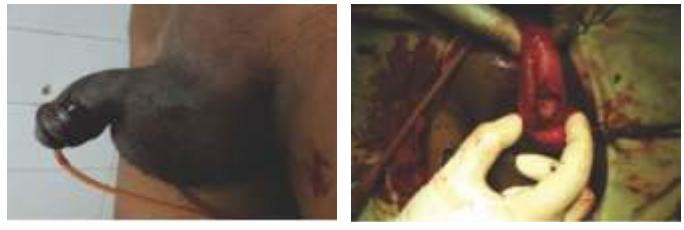

Figure 2,3 : Preoperative and intraoperativepicpureshowing left sided tunical defect

At 1 month follow-up 16 patients had morning erection (Fig. 4). No patients had voiding difficulty,16-patients had fibrous nodule at repair site. 2 (11.11%) patients had no morning erection.All patients underwent USG doppler of penis (Fig.5), 16 patients had normal baseline monophasic flow in cavrnousal arteries, no abormal vascularity noted in B/L corpora cavernosa. At 6 months, 5 patients were lost to follow-up; 13 patients had morning erection. There were no erectile dysfunction (ED) in 11/13 (84.61%)patients, mild ED in 1/13 (7.69%) patient and moderate ED in 1/13(7.69) patients.Patients with no ED average International index of erectile function (IIEF5)score was 23.27 . Other 2 patients had IIEF5 score 18 and 16 respectively. These 2 patients with ED also got improve in their potency status on treatment with phosphodiesterese 5 inhibitors. Two patients who had no morning erection presented more than 6 days following injury.

Figure 4,5 : Follow up dopplar study and morning erection photograph of the patient at 1 month

DISCUSSION:

During erection the reduction in thickness and associated loss of mobility make the tunica albuginea of the erect penis vulnerable to fracture. The fracture is usually followed by hematoma at the site of fracture that can spread to the scrotum, perineum and suprapubic area when Buck's fascia is disrupted.The mechanism of injury is usually a direct blunt force causing a sudden bending of the erect penis. This most commonly occurs during vaginal intercourse either in the 'woman on top position' when her entire weight lands on the erect penis or in the 'missionary position' when the penis misses the introitus and is thrust against the symphysis pubis or perineum [8].A variety of other causes of penile fracture have been reported,

including bending during masturbation or after a sudden deliberate penile kneading and snapping to achieve detumescence, or unconscious nocturnal manipulation, rolling out of bed and striking a wall, hitting a toilet seat, being thrown against the knob of a saddle, rolling out of a chair onto the floor [9,10].Diagnosis of penile fracture is usually straightforward with history and clinical examination. Nowadays, the role various imaging studies like Doppler ultrasonography, cavernosography and Magnetic resonance imaging of penis are studied. However, the positive predictive values in these studies have been shown to be similar to that of history and clinical examination [11,12].The incidence of concomitant urethral tear occurs in approximately in 10–22% of reported cases. Retrograde urethrogram, should be selectively performed to identify any urethral injury in clinically suggestive cases like in patients presented with blood in meatus, or urinary retention [13,14].The management of penile fracture has beenevolving with time. Early reports favoured a non-operative approach with application of cold compresses, anti-inflammatory agents, instructions to abstain from sexual intercourse, and suppression of erections with antiandrogens [15]. However, current literature tends to support immediate surgical repair. In a recent report the success rate was 92% for immediate surgical repair.The complication rate for conservative management was reported to be about 30%, which included fibrous tissue formation with deviation of the penis during erection, prolonged hospital stay and impotence compared with less than 10% for immediate surgical repair[16,17]. Contrary to this JavaadZargooshi in his review of 170 cases, has concluded that there is no relationship between the time of repair and the development of complications, and no difficulty in dis¬secting the penis in delayed cases and hence there is no optimum time and no emphasis on immediate surgery [18]. In our study,though small, we have not encountered any difficulty in dissecting the penis or faced any other significant complications.

CONCLUSION:

Penile fracture is an uncommon Urological emergency. Fracture penis must be repaired immediately if possible .Immediate surgical reconstruction results in faster recovery, decreased morbidity, lower complication rates, and lower incidence of long-term penile curvature with preservation of erectile function. Delayed repair or conservative management results in significant penile morbidity and loss of erectile function.

Conflict of interest : None

REFERENCES:

1. Orvis BR, McAninchJW. Penile rupture. UrolClin North Am. 1989 May; 16(2):369-75.
2. Eke N. Fracture of the penis.Br J Surg. 2002 May; 89(5):55565.
3. J E Mensah, B Morton and M Kyei. Early Surgical Repair of Penile Fractures.Ghana Med J. 2010 Sep; 44(3): 119–122.
4. Narayansingh V, Raju JC. Fracture of the penis. Br J Surg 1985; 72: 309-16.
5. Cedron M, WhiemoreKE, Carpiniello V, KurzwellSJ, Hanno PM, Snyder HM et al. Traumatic rupture of the corpus cavernosum: evaluation and management. J Urol 1990; 144: 987-91
6. El-Bahansawy MS, Gomha MA. Penile fractures: the successful outcome of immediate surgical intervention. Int J Imp Res 2000; 12: 273-7.
7. Kalash SS. Young JD. Fracture of the penis: controversy of surgi¬cal versus conservative treatment. Urology 1984; 24: 21-4
8. J E Mensah, B Morton and M Kyei. Early Surgical Repair of Penile Fractures.Ghana Med J. 2010 Sep; 44(3): 119–122.
9. Van Der Horst C, Martinez Portillo FJ, Seif C, Groth W, JunemannKP. Male genital injury. Br J Urol Int. 2004;93:927–930.
10. Fergany AF, Angermeier KW, Montague DK. Review of Cleveland Clinic experience with penile fracture. Urology. 1999;54:352–355.
11. Asgari MA, Hosseini SY, SafarinejadMR, et al. Penile fractures: evaluation, therapeutic approaches and long-term results. J Urol. 1996;155:148–149.
12. Mydlo JH, Hayyeri M, Macchia RJ. Urethrography and carvernosography imaging in a small series of penile fractures: a comparison with surgical findings. Urology. 1998;51:616–619. 1998.
13. Fergany AF, Angermeier KW, Montague DK. Review of Cleveland Clinic experience with penile fracture. Urology. 1999;54:352–355.
14. Kowalczyk J, Athens A, Grimali A. Penile fracture: an unusual presentation with lacerations of bilateral corpora cavernosa and partial disruption of the urethra. Urology. 1994;44:599–601.
15. Kalash S S, Young J D., Jr Fracture of penis: controversy of surgical versus conservative treatment. Urology. 1984;24:21–25.
16. Cummings J M, Parra R O, Boullier J A. Delayed repair of penile fracture. J Trauma. 1998;45:153.
17. Wespes E, Simon L, Schulman C. Fracture of the penis: conservative versus surgical treatment. Eur Urol. 1987;13:166–168.
18. JavaadZargooshi. Penile fracture in Kermanshah, Iran: The long¬term results of surgical treatment. Br J Urol 2002; 89: 890-4.

Case Series

Three Cases Of Anterior Mediastinal Tumours:the Learning Points In Diagnosis.

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ABSTRACT:

Primarymediastinaltumours are uncommon representing about 3% of tumours within the chest wall. As high as 25-40% of these lesions are malignant.Majority of tumours are seen in the anterior mediastinum.Clinically, an anterior mediastinal mass may be silent and incidentally discovered on imaging. There may be compression or local invasion of nerves,vascular structures, airways , esophagus , and bone. In addition, some tumors can produce systemic symptoms related to excess hormone release,cytokines, or antibodies. We treated3 cases of anterior mediastinal mass in our tertiary care hospital with various complaints. These cases were studied in details and were diagnosed as extra gonadal seminomatous germ cell tumour, malignant mesothelioma and thymoma by histopathology and immunohistochemistry. Tumours of the mediastinum represent a wide diversity of disease state. The location and composition of a mass is critical to narrowing the differential diagnosis. CT is generally the first-choice modality of diagnostic imaging. Complete resection is the mainstay of treatment in many mediastinaltumours and the ability to accomplish a complete resection appears to be the most important prognostic factor.

Keywords : anterior mediastinum, malignant tumours, immunohistochemistry

INTRODUCTION:

Mediastinum is the site of variety of lesions, ranging from inflammatory to neoplastic, benign to malignant, primary to metastatic lesions[1,2]. Primary mediastinal tumors are uncommon representing about 3% of tumors within the chest wall[3].As many as 25-40% of these lesions are malignant[1].Majority of tumors are seen in the anterior mediastinum[1,3,4,5].The knowledge of the nature of anterior mediastinal mass is very important for making correct diagnosis and therapeutic decisions.[1,3,5,6,7,8].Usually mediastinal masses are picked-up by clinical examination and radio-imaging appearance[1,4,7].

The anterior mediastinum is demarcated by the sternum anteriorly and by the brachiocephalic vessels, pericardium, and ascending aorta posteriorly. Its superior and inferior borders are the thoracic inlet and the diaphragm, respectively. The normal contents of the anterior mediastinum include the thymus, lymph nodes, adipose tissue, nerves, vessels, and sometimes downward extension of the thyroid from the neck. Anterior mediastinal masses generally arise from these structures[9].

Here, we are presenting three cases of anterior mediastinal masses which came to our tertiary care teaching hospitalover a period of 1 year. Formalin fixed, paraffin embedded blocks, stained with haematoxylin and eosin (H and E) stain were studied, which were diagnosed histologically as neoplastic lesions, during this time period. Immunohistochemistry (IHC) was performed using relevant panel of antibodies by horse radish peroxidase in polymer method with pretreatment by microwave heating. Of the 3 cases, all were male patients withage group ranging from 20 to 58 years.

CASE REPORTS: Case 1 : A 48 yearmalepatient presented to the surgery department with complaints of chest pain for the last 8 months . History of weight loss with loss of appetite was also present. The routine blood investigations were within normal limit.CT scan of Thorax revealed a large anterior mediastinal mass lesion predominantly on the left side displacing the trachea,esophagus,and heart to the right with pressure effect over the pulmonary artery and its left branch leading to moderate reduction of its caliber. However, no definitive diagnosis could be made on CT thorax.Thoracotomy was done and the excised mass was sent for histopathology. Initial histopathological examination (HPE) was done elsewhere and showed the picture of synovial sarcoma with extensive necrosis. The formalin fixed paraffin block was sent to our setup for reviewed opinion .The review of HPE showed small to medium sized, round to oval tumour cells with clear cytoplasm and prominent nucleoli arranged in lobules, interspersed with bands of lymphoid cells. Differential diagnoses were 1) Extragonadal germ cell tumour2) lymphoma3) Thymoma.IHC was done for confirmation which showed positivity for CD 117 in tumour cellsarranged in lobules and CD 45 in lymphocytes present in fibrous septa.Thus, HPE along with IHC studies confirms the diagnosis of extra gonadal seminomatous germ cell tumour.(see fig 1a, 1b, 1c, 1d) . The patient was doing well on follow up and was responding to treatment.

Fig 1a

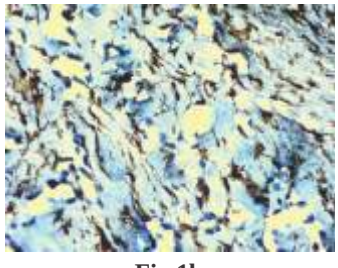

Fig 1b.

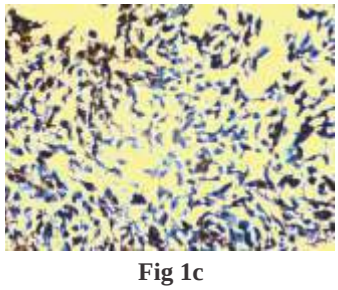

Fig 1c

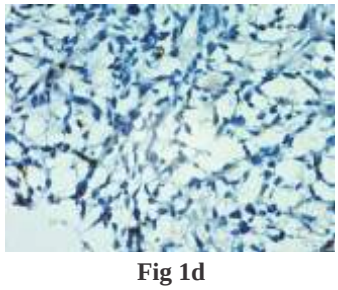

Fig 1d

Case 2 : A58 yearmale patient presented to the surgery department with history of chest pain for the last 6 months with history of cough. Patient also had history of weight loss and loss of appetite. All routine blood parameters were within normal limit. Sputum for Acid fast bacilli (AFB) was negative.CT scan of Thorax showed left sided pneumothorax with near total collapse of the underlying left lung along with thickening of the parietal and visceral pleura. No definite diagnosis could be given on CT thorax.The patient underwent thoracotomy and the excised thickened pleura was sent for HPE. Hematoxyllin and eosin staining section showed a mixture of epithelioid and sarcomatoid cellular components under light microscopy. The epithelioid component consisted of predominantly papillary and tubular patterns of growth. The tumour cells were cuboidal with clear round cytoplasmic vacuoles. The sarcomatoidcomponent consisted of moderately pleomorphic spindle cells growing in short fascicles in a poorly defined storiformpattern.The picture was suspicious of malignant mesothelioma. IHC was done to exclude metastatic adenocarcinoma. IHCevaluationshowed positivity for Vimentin, CK5/6,Calretinin.Thus histomorphology with IHC studies by standard markers confirmed the diagnosis of poorly differentiated malignant mesothelioma. However, the patient was lost to follow up.

Case 3:

A 23 yearmalepatient came to the surgery department with history of pain in the right sub-costal region for 6 months associated with intermittent fever and non productive cough. Routine blood investigations were done which were within normal limit.Chest X-rayrevealed right sided moderate pleural effusion with collapse of underlying lung parenchyma.Pleural fluid was examined which showed the presence of inflammatory cells, mostlylymphocytes, fair number of eosinophils, few mesothelial cells and macrophages in a background of RBC. No atypical cells were noted.ZeihlNeilson stain was negative for AFB.CT scan of thorax revealed a large heterogeneously enhancing lobulated mass lesions with necrotic areas and calcific focii along the anterior mediastinum with loss of fat plane with pleural deposits and right sided pleural effusion.Findings were suggestive of mesothelioma.Anterior thoracotomy was performed with resection of mass. Grossly it was received as 3 small pieces of tissues.HPE evaluation showed the presence of lymphoid cells and pale looking epithelial cells separated by fibrous bands intersecting at right angles. The picture was suggestive of thymoma. However, there was no histologic mimicry to mesothelioma.Immunohistochemistry was done to rule out lymphoma.IHCevaluationrevealed positivity for CK in tumour cells and CD 45 in supporting lymphocytes.Thus,histomorphology along with IHC evaluation confirms the diagnosis of thymoma-type B2. On follow up the patient was doing well and was responding to treatment.

DISCUSSION: Clinically, an anterior mediastinal mass may be silent and incidentally discovered on imaging. There may be compression or local invasion of nerves (causing pain, paralysis of the diaphragm or vocal cords, or arrhythmias), vascular structures (superior vena cava syndrome), airways (dyspnea, cough), esophagus (dysphagia), and bone. In addition, some tumors can produce systemic symptoms related to paraneoplastic syndrome due to excess hormone release,cytokines, or antibodies.[9]

Thymoma is the most common primary neoplasm of the anterior mediastinum but accounts for less than 1% of all adult malignancies. Thymomas typically occur inpatients older than 40 years of age, being rare in children, and affecting men and women equally. Between 20% and 30% of patients with thymoma have pressure-induced symptoms. Myasthenia gravis associated with thymomaoccurs most frequently in women. Between 30% and 50% of patients with a thymoma have myasthenia gravis, whereas 10–15% of patients with myasthenia gravis have a thymoma.[10,11]

Germ cell tumours (GCTs) mainly arise in gonads and in the midline

of the body as well, the mediastinum being the most common extragonadal site. GCTs account for 10–15% of anterior mediastinal masses in adults and 25% in children. Primarymediastinal seminomas comprise 25–50% of malignantmediastinalGCTs and occur almost exclusively in males during the period from the second to fourth decades of life. At imaging, the tumours typically have homogenous appearance and show minimal contrast enhancement. Areas of degeneration due to haemorrhageand coagulation necrosis may be present .Metastasis to lymph nodes and bone does occur. Non-seminomatous germ cell tumours include yolk sac tumours, endodermal sinus tumours, embryonal carcinomas, choriocarcinomas and mixed germ cell tumours, which present as large masses typically with marked heterogeneous attenuation. At diagnosis, 85% of patients are symptomatic. Invasion of adjacent structures and distant metastasis may occur. Pleural and pericardial effusions are common. Measuring AFP and ß-hCG levels is important when making the diagnosis.[12,13]. HPEand IHC are very crucial for diagnosis of seminomatous germ cell tumoursbecause it has excellent prognosis over other germ cell tumours.

Malignant mesothelioma is usually seen in older adults, although well-documented cases in young individuals are on record.[14] In some instances a familial clustering has been demonstrated[15]. Cases have been reported following radiation therapy for Hodgkin lymphoma. Typically, the tumor presents with chest pain and pleural effusion. In most instances the initial involvement is in the lower half of a hemithorax, but spread to the rest of the pleural cavity is the rule.[16]

In assessment of mediastinal disease, CT scan is the modality of choice for diagnostic imagingbut in the above three cases it was not much helpful. Our learning point was tissue diagnosis along with IHC is very crucial modality for diagnosis of anterior mediastinaltumours. So, the reporting radiologists need to be an experienced one to narrow down the differential diagnosis and perform a biopsy to confirm in tissue diagnosis.The management of a case is heavily based on type of malignancy and extent of disease.

CONCLUSION

Accurate diagnosis is the foundation for treatment of diverse mediastinal lesions. So learning points here washistopathology and immunohistochemistry should always be considered before management of the patients of anterior mediastinaltumours.

REFERENCE:

1. Karki S, Chalise S. Analysis of mediastinal lesions: A study of 27cases. Journal of Pathology of Nepal 2011; 1:114–7.
2. Fang WT, Xu MY, Chen G, Chen Y, Chen WH. Minimally invasive approaches for histological diagnosis of anterior mediastinal masses. Chin Med J (Engl) 2007; 120:675–9.
3. Vaziri M, Pazooki M, Zahedi-Shoolami L. Mediastinal Masses: Review of 105 Cases. Acta Med Iran 2009; 47:297–00.
4. Tscheikuna J, Suttinont P. Is cytology necessary in diagnosis of mediastinal mass? J Med Assoc Thai 2009; 92:24–9.
5. Shrivastava CP, Devgarha S, Ahlawat V. Mediastinal tumors: A clinicopathological analysis. Asian CardiovascThorac Ann 2006; 14:102–4.
6. Desai F, Shah M, Patel S, Shukla SN. Fine needle aspiration cytology of anterior mediastinal masses. Indian J PatholMicrobiol 2008; 51:88–90.
7. Safavi E, Hosseinian SM, Firoozbakhsh S. The value of percutaneous core needle biopsy in the diagnosis of anterior mediastinal tumors. Tanaffos 2004; 3:7–11.
8. Zinzani PL, Corneli G, Cancellieri A, Magagnoli M, Lacava N, Gherlinzoni F, et al. Core needle biopsy is effective in the initial diagnosis of mediastinallymphoma.Haematologica 1999;84:600–3.
9. Maryam Shahrzad, Thi Som Mai Le , Mario Silva, Alexander A Bankier , Ronald L Eisenberg .Anterior Mediastinal Masses. AJR2014; 203 :128–3.
10. Marom EM. Imaging thymoma. J ThoracOncol2010; 5:296–03
11. BenvenisteMFK et al .Role of imaging in the diagnosis, staging, and treatment of thymoma.Radiographics2011; 31:1847–61.
12 .Duwe BV et al. Tumors of the mediastinum. Chest 2005; 128:2893–09.
13. Takahashi Ket al. Computed tomography and magneticresonance imaging of mediastinal tumors. J MagnReson Imaging2010; 32:1325–39.
14. Kane MJ, Chahinian P, Holland JF. Malignant mesothelioma in young adults. Cancer 1990;65:1449-55.
15. Dawson A, Gibbs A, Browne K, Pooley F, Griffiths M. Familial mesothelioma: Details of 17 cases with histopathologic findings and mineral analysis. Cancer 1992; 70:1183-87.
16. Vasef MA, Sheibani K, Lopez D, Sheibani S. Radiation-induced malignant mesothelioma following treatment for Hodgkin lymphoma. Lab Invest 2009;89:363A.

Case Report

Spontaneous Perforation of Bile Duct In A Fourteen Month old Boy

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ABSTRACT:

Spontaneous perforation of bile duct is rare and is usually encountered in infant and children. Clinical diagnosis is rarely made because of its non-specific clinical presentation. We report a 14 months old child with spontaneous perforation of the bile duct at the junction of common bile duct (CBD) and cystic duct. Child was successfully treated by cholecystectomy and simple external drainage of the perforation site. Post operativemagnetic resonance cholangiopancreatography (MRCP) showed normal biliary tree.

Key words : common Bile duct, perforation, biliary peritonitis.

INTRODUCTION:

Spontaneous perforation of the bile duct (SPBD) occurs without trauma or iatrogenic injury. It is extremely rare and is more often seen in infant and children. If choledochal cyst is excluded it is considered idiopathic in children but in adult it is usually due to distal obstruction, commonly due to calculi and sometimes malignancy. We report a 14 months old boy with spontaneous perforation of bile duct.

Case report:

One 14 months old male child presented with breathing difficulty. He was treated as a case of bronchial asthma and improved but developed abdominal distension. He did not pass stool for 3 days at the time of admission. Surgical consultation was sought; examination revealedabdominal distension with mild tenderness.Child was not icteric. His hemoglobin was 9.5 gm/dl and total count was 11,650/cmm with 59% polymorph, 34% lymphocyte and 7 % monocytes. Total serum bilirubin was 0.88 mg/dl (all unconjugated); aspartate amino transferase (ALT) was 42 U/L; and alanine amino transferase (AST) was 24 U/L. Ultrasonography of the abdomen showed dilated bowel loops with moderate ascites. Gall bladder and biliary tract were normal. Diagnostic aspiration was done and it revealed bilious fluid.Clinical diagnosis of bowel perforation was made and laparotomy was done through a standard supra-umbilical transverse incision. Peritoneal cavity was full of bile and no bowel perforation was found but bile was coming down from right hypochondrium. Incision was extended vertically (Fig 1).

Figure 1

Figure 1:

Initial transverse incision extended vertically for access.

Stomach, duodenum and intestines were normal. Gall bladder was edematous. There was perforation of the

bile duct at the junction of the CBD and cystic duct. Size of the perforation was about 3mm on anterolateral wall (Fig.2)

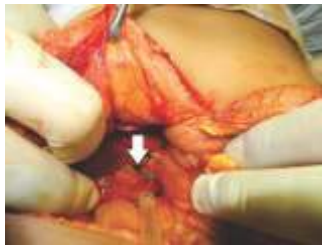

Figure 2

Figure 2: Bile duct perforation on the antero-lateral wall. and the bile duct was not dilated.Bile duct was flushed with normal saline. There was debris inside bile duct but no true calculus. Cholecystectomy and peritoneal toilet was done. Margins of the perforation were friable and therefore no attempt was made to repair the perforation. Adventitious tissue over the perforation was apposed by a loose absorbable suture and a tube drain was placed near the perforation. Post operative recovery was smooth; initially the drainage tube drained 50 ml of bile daily for three days and gradually decreased and stopped on 9th post operative day. Ultrasonography showed normal biliary tree and no intra-abdominal collection. Drainage tube was removed on 10th postoperative day and the patient was discharged on 12th post operative day. Child has been well and jaundice free during follow up visits. Magnetic Resonance Cholangio-Pancretogram (MRCP) was done after 1 months and it showed normal biliary tree without gall bladder, with common channel.

Discussion:

Freeland reported the first case of spontaneous perforation of hepatic duct in 1882 diagnosed during autopsy [1]. To date only 20 cases of intrahepatic and 50 cases of extrahepatic bile duct perforation have been reported [3]. In the extrahepatic bile ducts, the CBD and cystic duct junction is the commonest sites of perforation, but this phenomenon has been described everywhere in the biliary tract [3,4,5]. Our case was 14 months old and the perforation typically occurred at the junction of cystic duct and CBD.

The etiological factors for spontaneous perforation of extrahepatic bile duct have been reported as follows: 1) erosion by biliary stones directly through the duct wall; 2) obstruction of the distal bile duct and increased intraductal pressure; 3) vascular thrombosis supplying the duct wall; 4) intramural infection of the duct as a result of cholangitis; 5) regurgitation of pancreatic secretions into the bile duct; 6) diverticulitis of the bile duct; and 7) carcinomas arising in the hepato-biliary-pancreatic organs. Combinations of these factors are probably responsible for most bile duct perforations. Congenital malfunction of the of the wall at the junction of the cystic duct and common bile duct has been implicated as causative factor for perforation of bile duct at this point, commonly encountered in infant and children [6,7].

Presentation of SPBD may be acute but more commonly insidious characterized by progressive jaundice, painless abdominal distension and clay stool. Presentation with overt peritonitis is rare because biliary peritonitis is usually a sterile chemical inflammation and hence may not create signs similar to bacterial peritonitis secondary to bowel perforation [6] and often the perforation is tiny and causes slow leakage of bile.Chardot et al [8] have reported a series of 11 cases of spontaneous perforation of bile duct of which 2 cases presented with generalized peritonitis, 4 cases with localized peritonitis and 5 cases with secondary biliary stenosis. Our case initially presented with respiratory symptoms which may be concomitant or may be due to diaphragmatic irritation by bile and after sufficient bile collection abdominal symptoms became prominent.

Because of non-specific clinical features, the diagnosis is rarely made preoperatively and most of the cases are diagnosed at laparotomy [6]. In our case also initial diagnosis of perforation peritonitis was made and the final diagnosis was made during laparotomy.

When the diagnosis is suspected, hepatobiliary scintigraphy can provide useful information about liver function, biliary patency, and site of perforation based on localized accumulation of radiotracer in the peritoneal cavity and can confirm that the intra-peritoneal fluid is bile without the need for paracentesis. Delineation of Hepato-pancreatico-biliary anatomy is must in all cases if possible by intra-operative or post-operative cholangiogram or by MRCP to detect ductal abnormalities and to rule out choledochal cyst to label it as a SPBD.

Recommended treatment for such cases is T-tube drainage of the common bile duct along with cholecystectomy. If preoperative or intraoperative cholangiogram is available and it shows no distal obstruction, primary repair may be considered.In cases with distal obstruction of the CBD, a biliary enteric bypass should be done but preferably be avoided in emergency situation because general condition of the patient is usually low and presence of inflammation can result in anastomotic leak. In our case the bile duct was too narrow for insertion of a T-tube. We removed the gall bladder and simply drained the sub-hepatic space. Bile leakage subsided spontaneously and the post operativecholangiogram showed normal biliary tree. Therefore, we opine that in infants and small children with SPBD where bile duct is not dilated, simple external drainage of the perforation site is asafe temporary measure and it may be curative in absence of distal obstruction and unnecessary bypass operation may be avoided.

References:

1. Freedland J. Rupture of the hepatic duct. Lancet. 1882;6:731–32
2. Mizutani S, Yagi A, Watanabe M, Maejima K, Komine O, Yoshino M, et al. T tube drainage for spontaneous perforation of the extrahepatic bile duct. Med SciMonit 2011;17:CS8-11.
3. Chu CS. Spontaneous perforation of the common hepatic duct: Report of seven cases. SurgGastroenterol1984;3:69-76.
4. Lochan R, Joypaul BV. Bile peritonitis due to intra-hepatic bile duct rupture. World J Gastroenterol2005;11:6728-9
5. Khanna R, Agarwal N, Singh AK, Khanna S, Basu SP. Spontaneous common bile duct perforation presenting as acute abdomen. Indian J Surg 2010;72:407-8
6. Upadhyaya VD, Kumar B, Singh M, Rudramani, Jaiswal S, Lal R, et al. Spontaneous biliary peritonitis: Is bed side diagnosis possible? Afr J PaediatrSurg2013;10:112-6.
7. Lilley J. Spontaneous perforation of the extra hepatic bile duets and bile peritonitis in infancy. Surgery.1974;75:664–673.
8. Chardot C, Iskandarani F, De Dreuzy O, et al. Spontaneous perforation of the biliary tract in infancy: a series of 11 cases. Eur J Paediatr Surg. 1996;6:341–6

Journal Watch

N Engl J Med 2017; 376:2534-2544, June 29, 2017DOI: 10.1056/NEJMoa1603825

Thyroid Hormone Therapy for Older Adults with Subclinical Hypothyroidism
David J. Stott, M.B., Ch.B., M.D., Nicolas Rodondi, M.D. et al.

The authors took up this study with the aim to determine whether levothyroxine provided clinical benefits in older persons with this condition as the use of levothyroxine to treat subclinical hypothyroidism is controversial.

In this double-blind, randomized, placebo-controlled, parallel-group trial involved 737 adults who were at least 65 years of age and who had persisting subclinical hypothyroidism were taken up for study. A total of 368 patients were assigned to receive levothyroxine (at a starting dose of 50 µg daily, or 25 µg) with dose adjustment according to the thyrotropin level; 369 patients were assigned to receive placebo with mock dose adjustment. The two primary outcomes were the change in the Hypothyroid Symptoms score and Tiredness score on a thyroid-related quality-of-life questionnaire at 1 year.

The result of the study showed that the mean (±SD) thyrotropin level was 6.40±2.01 mIU per liter at baseline; at 1 year, this level had decreased to 5.48 mIU per liter in the placebo group, as compared with 3.63 mIU per liter in the levothyroxine group ($P<0.001$) at a median dose of 50 µg. They found no differences in the mean change at 1 year in the Hypothyroid Symptoms score (0.2±15.3 in the placebo group and 0.2±14.4 in the levothyroxine group) or the Tiredness score (3.2±17.7 and 3.8±18.4, respectively).The result showed no beneficial effects of levothyroxine on secondary-outcome measures.

It was concluded that Levothyroxine provided no apparent benefits in older persons with subclinical hypothyroidism. (Funded by European Union FP7 and others; TRUST ClinicalTrials.gov number, NCT01660126.).

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Why Do the Youths in Northeast India Use Tobacco?

Laishram Ladusingh, Preeti Dhillon and Pralip Kumar Narzary

The study is based on unit level data from District Level Household and Facility Survey-4 (2012-2013) comprising 27,706 youthsin 15–24 years' age group from northeastern states of India and used multilevel regression to identify the potential risk factors oftobacco consumption. This study found that there is 3.4 times risk of taking tobacco by youths who lives with their parents who uses tobacco. It is found to have significant peers effect on tobacco consumption as well. School-going youths has lower risk of tobacco use. This may be due to the fact that theyoung children and youth tend to imitate or follow their elders. The study indicates thatthe behaviour of the mother seems to matter much more thanthat of father's as children are usually more attached totheir mothers.

The study suggests that even though the Cigarettes and Other TobaccoProducts Act (COTPA) of 2003 prohibits smoking in publicplaces, prohibits sale of tobacco products to and by minorsunder 18 years, bans sale of tobacco products within 100yards of all educationalinstitutions the behaviour of the youth cannot be changed if it is not dealt with at house hold level and prevent easy accessibility.Tobacco use is culturally accepted behaviourin the region, especially among the adults. The public programme aloneis not sufficient to ward off tobacco use and community'sinvolvement plays crucial part in this regard.

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Open Right Hemicolectomy: Lateral to Medial or Medial to Lateral Approach?
Pingping Xu, Li Ren, Dexiang Zhu rt al. Department of General Surgery, Zhongshan Hospital, Fudan University, Shanghai, China

This retrospective study conducted with the aim to assess whether one of these approaches of open hemicolectomy has any potential benefits over the other.

The study population was divided into an MA group and an LA group by propensity scoring. It compared patient demographic and clinical characteristic variables between the two groups and assessed short-term and long-term outcome.

A total of 450 patients (MA, n = 150; LA, n = 300) were evaluated in the study. The operation time (MA,138.4 minutes vs.LA,166.2 minutes; P < .05) and blood loss (MA,52.0mL vs. LA, 62.6mL; P < .05)were significantly lower in the MA group. No differences found in the number of harvested lymph nodes and oncologic outcomes between the two groups. Further subgroup analysis for stage III colon cancer revealed that the MA group had significantly more retrieved lymph nodes (MA,18.8vs. LA,16.0; P = .028)

The study concluded that the MA reduced operative time and blood loss compared with the LA thus the MA provided short-term benefits compared with the LA in open right hemicolectomy for right-sided colon cancer.

Hernia. 2017 Sep 1. doi: 10.1007/s10029-017-1642-7

Laparoscopic extraperitoneal repair versus open inguinal hernia repair: 20-year follow-up of a randomized controlled trial.

Barbaro A, Kanhere H, Bessell J3, Maddern GJ

Laparoscopic inguinal hernia surgery, especially TEP repair, has gained widespread acceptance in recent years. There is still paucity of data on long-term follow-up comparing recurrence rates for open and laparoscopic techniques. The authors took up this study to compare the long-term recurrence rates of laparoscopic totally extraperitoneal repair with that of open repair. This is the first study providing direct long-term comparative data about these techniques.

A randomised controlled trial was conducted between 1992 and 1994 on patients undergoing a laparoscopic TEP or an open inguinal hernia (Shouldice) repair. Of the original 104 participants, contemporary follow-up data could be obtained for 98 patients with regards to long-term recurrence. These data were collected with the help of questionnaires, telephone calls and retrieval of case records. Medical records were reviewed for all patients. Results shows that there were were 7/72 (9.7%) recurrences in the open group and 9/35 (25.7%) recurrences in the laparoscopic group. This difference in recurrence rates was statistically significant (HR = 2.94; 95% CI 1.05-8.25; p = 0.041.). It was concluded that Laparoscopic TEP inguinal hernia repair performed in 1992-1994 had a higher recurrence rate than open Shouldice inguinal hernia repair during the same period. The original study was undertaken in the inceptive days of laparoscopic surgery and results need to be interpreted considering the technology and expertise available at that time.

Instructions for authors

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- Cover letter should cover following aspects
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- New/ innovative techniques may be sent as, surgical technique/ how I do it?
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- References. References should be numbered using Arabic numerals in box parentheses e.g. [1] in the order of appearance in the text, tables, and legends. The style should be in accordance with Uniform Requirements (the Vancouver style) with inclusive pages (e.g, 285-292). Avoid the use of abstracts, unpublished observations and personal communications as references. References to papers accepted but not yet published should be designated as "in press". List all authors when six or less. When seven or more, list only first six and add et al.
- Peter GC, Anish S, Sanjay Y, Pascal J, Jack J (2010) Emergency reversal of antiplatelet agents in patients presenting with an intracranial hemorrhage: a literature review. World Neurosurg 74:279-285.
- Chapter in a book. Miyano T, Kobayashi H, Chen SC. Long term results of biliary atresia. In, Gupta DK (ed). Text Book of Neonatal Surgery, 1st edition. New Delhi, Modern Publishers, 2000;288-291.
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