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Mesenteric Cyst Lymphangiomas in 6years Old Boy (A Case Report)

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A B S T R A C T

mesenteric cyst lymphangioma is a rare benign intra-abdominal tumour, It is located in the mesentery of the gastrointestinal tract and may extend from the base of the mesentery into the retroperitoneum. chylous ascites is an uncommon form of ascites due to leakage of lipid-rich lymph into the peritoneal cavity, it is diagnosed by the presence of milky-appearing ascites fluid and white triglyceride content >200mg/dl. We report 6-year-old boy presented progressive Vega abdominal pain over one month associated lately with abdominal distention and vomiting, abdominal ultrasound and NON-CONTRAST computed tomography (CT) revealed a large cystic abdominal lesion demonstrating multiple septations involving the retroperitoneal region. The intra-operative finding was a large yellowish septate mesenteric cyst arising from both mesenteric borders of jejunal loop extending retroperitoneal with white mesentery and multiple reactionary lymph node and chylous acites

1.0 Inroduction

Mesenteric cysts (MC) are rare intra-abdominal benign tumours with no classical clinical feature. They were first reported in 1507 by the Italian anatomist Benevieni after an autopsy of 8 years old girl. Tillaux describe the first successful surgery for a mesenteric cyst in 1880 and the first marsupialization of mesenteric neoplasm was performed by Pean in 1889 (Nubyh´elia Maria Negreiro de Carvalho a, 2020) (KURTZ R. J., 1986 Jan). The incidence about 1/100 000 but other authors record lower frequency, about 1/250 000 hospital admissions (KURTZ R. J., 1986 Jan). In children under the age of 10 years the lesions are more frequent, with incidence of 1 patient per 4000-34 000 hospital admissions (OS, 1955 NOV). Mesenteric cysts can occur anywhere in the mesentery of the gastrointestinal tract from the duodenum to the rectum. They may extend from the base of the mesentery into the retroperitoneum, in a series of 162 patients, 60% of mesenteric cysts occurred in the small-bowel mesentery, 24% in the large-bowel mesentery, and 14.5% in the retroperitoneum ,50–60% of mesenteric cysts occur in the mesentery of ileum (John Mason, 2001). The size varies from 8 to 35 cm (Byung Hee Kang, 2011). There are several classifications of (MC) formations, among which the one based on histopathologic features including 6 groups has been most commonly used: 1) cysts of lymphatic origin (hilar cysts) and lymphangiomas; 2) cysts of mesothelial origin benign or malignant mesothelial cysts; 3) enteric cysts; 4) cysts of urogenital origin; 5) dermoid cysts; and 6) pseudocysts infectious or traumatic etiology (Marijan Huis 1, 2002).Mesenteric cysts are often asymptomatic and discovered as an incidental finding from radiological investigations, Symptoms relate to the size and location of the cyst rather than to the specific pathology , the cyst may present with acute or chronic abdominal pain (55%-81%), palpable mass (44%-61%), distension (17%- 61%), nausea and vomiting (45%), constipation (27%) and diar- rhea (6%) (HARDIN & HARDY, 1970) (Billy C Leung, 2017),Abdominal ultrasonography and computed tomography (CT) scan, magnetic resonance imaging (MRI) are diagnostic. complete Surgical excision of the cyst is the treatment of choice with a very low recurrence rate. Chylous ascites (CA) its uncommon condition the incidence of chylous ascites (CA) was reported to be approxi-mately 1 in 20,000 admissions by a large university-

based hospital over a period of 20 years. defined as a milky appearing, triglycer- ide-rich peritoneal fluid in the abdominal cavity, it is diagnosed by presence of milky appearing ascites fluid with triglyceride content>200mg/dl (Browse NL, 1992). with acute or chronic abdominal m- phatics secondary to obstruction, or an increase in the peritoneal lymphatic pressure (Said A. Al-Busafi, 2014). Lymphangiomas are malformation of lymphatic system, Mesenteric cystic lymphangioma (MCL) is a benign neoplasm originating from the lymphatic system. This tumor is very rare with an incidence of 1: 250,000 and is commonly found in children, of which 60% ap- pear at birth, and 40% by one year of age. MCL represent 5–6% of benign tumors in children (Weeda, 2008) (Mesić, 2013). The predi- lection of tumors is in the head and neck (70%), axillary (20%), and internal organs (10%). Diagnosis is confirmed by histopatho- logical findings of lymphatic vessels restricted to the connective tis- sue of endothelial cells and smooth muscle tissues, 90% become symptomatic before the second year of life Nearly 60% are diag- nosed before the fifth year of life Most reports show a female pre- dominance but some studies report a male predominance greater than 70% (Weeda, 2008) (Julian E Losanoff, 2003),The etiology of MCL is unknown, though some believe that it might be associated with developmental anomalies of the lymphatics. This embryonal theory is at least partially supported by the fact that most cases are diagnosed during childhood and large number are diagnosed pre- natally Other possible etiologies include bleeding or inflammation in the lymphatic channels, both leading to obstruction and subse- quent lymphangioma formation.

Presentation

6year old male was admitted for acute abdominal pain associated with nausea and vomiting since 3 days back ,the patient had unre- markable birth and neonatal history ,had undergone normal growth and developmental he was good health until one month prior to admission at that time patient complain of decrease appe- tite and abdominal discomfort ,3 day prior to admission patient start to complains from progressive central abdominal pain colicky in nature not radiated anywhere associated with nausea and vomit- ing and constipation ,there was no history of previous abdominal trauma or intra-abdominal sepsis.

Physical examination reveal pleasant alert 6-year old chilled ap- pear slightly wasted ,the abdomen was distended in lower part with percussion dullness and fluid wave but no shifting dullness on palpation , his laboratory investigation reveal Hb% , TLC , electro- lyte , urea , creatinine ,ESR, serum amylase ,serum albumin and tri- glyceride All were within normal limits ,ultrasonography done and reveal huge multilocular pelvia-abdominal cystic mass lesion with thick septation and turbid content and multiple reactionary lymph node concentrated mainly in the hepatic flexure (**fig 1**) , NON CON- TRAST CT scan abdomen and pelvis done and reveal(**fig 2**) large abdominopelvic multi-spatial multi-cystic mass measuring120×110×38mm(T×CC×AP respectively)involving retroperitoneal region of lower abdomen and pelvic region it show homogenous density ,it is abutting vascular structure with no vascular compro- mise , all these features are represent benign slowly growing retro- peritoneal cystic mass lesion which makes lymphangioma most likely diagnosis on radiological image .lower midline Exploratory laparotomy was done revealed large yellowish septated cystic swelling arising from mesenteric border on both side of jejunum loop (**fig** 3) and white mesentery (**fig 4**) and white chylous intra- peritoneal free fluid and reactionary lymph node also observed.

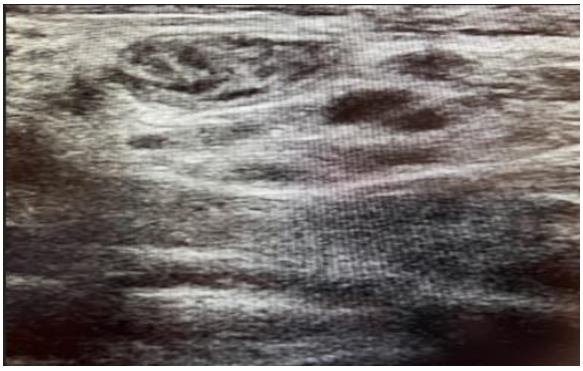

Figure 1 : ultrasonography picture showing multiple mesenteric lymph node concentrated in hepatic flexure

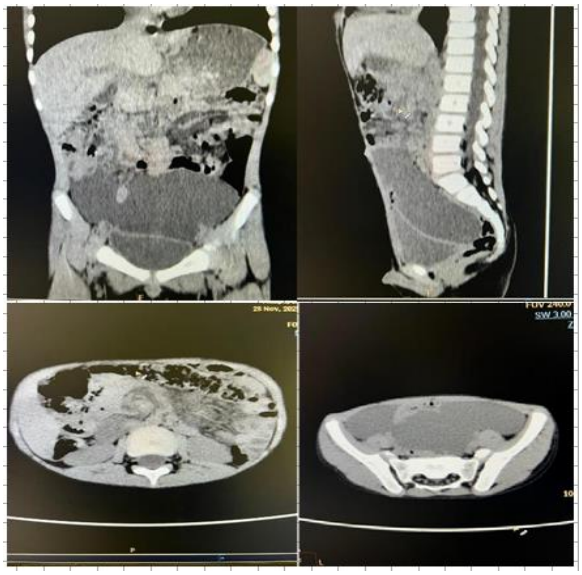

Figure2: CT scan abdomen reveals Large cystic abdominal lesion demonstrating multiple septae. It is involving the retroperitoneal regions of the lower abdomen and pelvic region It shows homogenous density with soft tissue density (mean 40 HU).

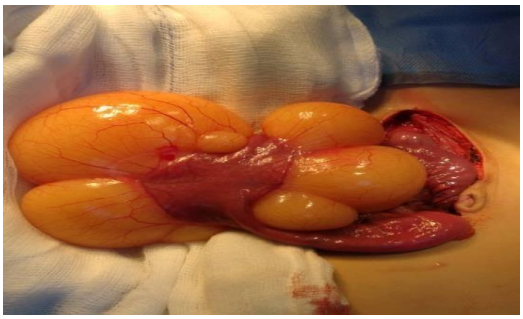

Figure 3: operative photography showing yellowish septate mesenteric cyst arising from mesenteric border on both side of jejunum.

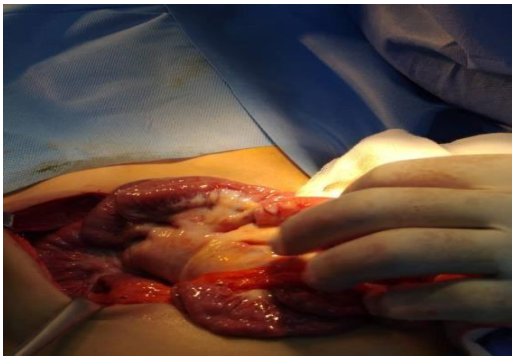

Figure 4: operative photography showing white root of mesentery

complete cystic excision and resection of the part of jejunum in- volved with cyst is done (**fig 5**) the rest of the viscera was normal, intra-peritoneal drained is placed, his post operative recovery was uneventful. the histopathology report consistent of cystic lymphan-gioma

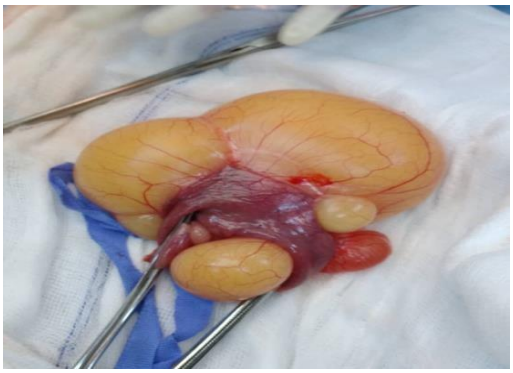

Figure 5: operative photography showing complete resection of jejunum loop and cyst.

Discussion

Discussion: In the eighth week of gestation, six lymphatic sacs can be identified in the developing embryo. These lymphatic sacs are two jugular sacs, two iliac, one at the base of root of mesentery and one dorsal to the abdominal aorta (cysterna chyli). Jugular lymphatic sacs develop in the region of neck, whereas iliac sacs develop in the lumbar region. Later on, a network of lymphatics develops that communicate with lymphatics of various regions. During the ninth week of gestation, these sacs are invaded by connective tissue to form lymph nodes (Bilal Mirza, 2010). cystic Lymphangioma is characterized as an uncommon, benign fluid-filled cystic anomaly originating in lymphatic vessels with an excellent prognosis, occurring in one out of 2000–4000 live births (Kennedy, 2001). The lesion can arise anywhere, but is usually found in the region of the neck and axillary. It may also arise from the abdominal wall, inguinal region, buttocks, anogenital region, and retroperitoneal areas. Other rare sites include the tongue (Nitnaware AZ, 2011), parotid (Lee GS, 2008), mediastinum (Impellizzeri P, 2010), spleen (Anthony Perez, 2020), The tissue of origin is usually the subcutaneous tissue, but it may also arise from muscles (Saloua Ammar, 2014), bone (Anon., 2011), with high prevalence in children and young adults. Abdominal cystic lymphangiomas are rare tumor accounts for only 5% of all lymphangiomas with reported incidence be 1 in 20,000-250,000, Almost 90% are detected by the mean age of 2 years Intra-abdominal lymphangioma are almost always found in the retroperitoneum, followed by mesentery. In intraperitoneal sites, the small bowel mesentery (70%) is the commonest site, with 50–60% of all cysts located in the ileal mesentery (Ömer Katıa, 2018) (Aprea, 2013). suggested mechanism of occurrence is an anomalous development of the lymphatic system, which involves the obstruction of developed lymphatic channels due to lack of communication between small bowel lymphatic tissue and the main lymphatic vessels resulting in blind cystic lymphatic spaces. Histopathologically, ACLs are characterized by a thin irregular wall covered by endothelium that contains smooth muscle, foam cells, and lymphatic tissue, they are classified into three different subtypes based on microsporocyte as capillary, cavernous and cystic lesions, Capillary lymphangiomas are made of small, thin-walled lymphatic vessels located in the skin. The cavernous type consists of dilated lymphatic channels of various sizes that keep their connection with normal lymphatic vessels, The cystic type is the most common form of lymphangioma (Shahab Shayesteh, 2021) (JASB Jayasundara1, 2017) . The clinical manifestation of intra-abdominal lymphangioma depending on the location of the tumor. The clinical diagnosis could be difficult due to the lack of specific signs and symptoms, which may include nausea, vomiting, abdominal pain, weight loss, or bowel obstruction. Imaging modalities play an important role in the detection and diagnosis of intra-abdominal lymphangiomas. Ultrasonography and Abdominal contrast-

enhanced computed tomography and MRI all are imaging modality used for diagnosis. Confirming diagnosis of mesenteric lymphangioma requires a biopsy revealing thin-walled cystic spaces enclosed with smooth muscle and collagen and positive markers in immunohistology staining like CD31, CD34, and Factor VIII-related antigen. Radical surgical removal of the tumor is the primary treatment since it reduces the rate of recurrence. Surgical removal can be a challenging procedure when the tumor is located in the retroperitoneum or there is extensive vascular involvement and proximity to vital organs (JASB Jayasundara1, 2017)

Patient Consent Statement:

Consent to publish the case report was not obtained. This report does not contain any personal information that could lead to the identification of the patient.

Conflict of interest:

The author has no financial disclosures

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