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A Case Review of Benign Splenic Cyst

KEYWORDS: Spleen; Epithelial cyst; Surgery; Laparoscopy. Non-parasitic splenic cysts. post-traumatic origin[3,4].

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ABSTRACT Primary splenic cyst is a relatively rare disease, and the majority of cases are classified as epithelial cysts. A case with nonparasitic splenic cysts presented: . The case had an atypical symptomatology, consisted mainly of fullness in the left upper abdomen and a palpable mass. Preoperative diagnosis was established with ultrasonography and computerized tomography. The case was with large cysts located in the splenic hilum was treated with open complete splenectomy. The case did not have any problems or recurrence during follow-up. Complete splenectomy is reserved for cases in which cyst excision cannot be done by laproscopic procedure.

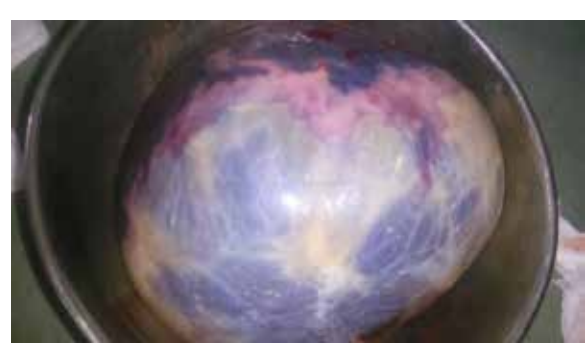
Primary splenic cysts comprise 30-40% of the total and are encountered more commonly in children and young adults [5,6]. Most of the cysts are asymptomatic, and they are incidental findings during abdominal ultrasonography. The number of diagnosed splenic cysts seems to rise because of the increased use of abdominal imaging techniques [7]. Laparotomy with splenectomy has been the method of choice for the treatment of primary splenic cysts [5, 8]. Today, performance of more conservative surgical procedures has been advised, especially in children and young adults, in order to avoid overwhelming postsplenectomy infection[4,8]. Herein, we present a case with non-parasitic splenic cysts, their diagnostic evaluation and surgical management.

Case history

A 20year-old girl was admitted to our Department with a chief complaint of abdominal fullness since 1 year. An elastic, hard mass of approximately 15 cm in diameter was palpable in the left upper abdomen. A chest X-ray showed a mild elevation of the left hemidiaphragm. Ultrasonography of the upper abdomen showed a giant cystic lesion of 15*15cm with irregular echoic patterns. Computerized tomography confirmed the splenic localization of the cyst and demonstrated 15*12*15cm sized well defined non enhancing fluid density lesion with imperceptible wall involving mid and lower pole of spleen involving the hilum. The lesion displaces and compresses stomach medially kidney posterioinferiorly and pancrease posteriorly. CT IMPRESSION suggested possibility of benign cystic lesiom of spleen appears like possibility of epithelial cyst or hydatiad cyst. All routine investigation were normal .Patient serum ca19.9 and cea level were within normal limits.USG guided fluid aspiration was done and sent for fluid cytology which showed scattered epithelial cells with degenerative changes admixed with lymphocytes plasma cells and macrophages in a background of red blood cells. At laparotomy, a huge splenic cyst of approximately 15 cm of maximal diameter was revealed, located in the mid and lower pole of the splenic parenchyma involving the hilum. Due to the cyst location, preservation of the spleen was considered impossible, and complete splenectomy followed. Histology report revealed that the cyst wall consisted of dense fibrous tissue, covered by stratified squamous or cuboid epithelium. Thus, the diagnosis of a primary epidermoid splenic cyst was established.

The postoperative clinical course of the patient was satisfactory drain was removed on fourth postoperative day and was discharged on postoperative day 7. She received a pneumococcal vaccine and chemoprophylaxis with oral penicillin at a dose of 1 500 000 IU twice daily, for a period of 6 months.

INTRA OPERATIVE VIEW OF THE SPLENIC CYST



COMPLETE SPLENECTOMY WITH WELL DEFINED SPLENIC CYST

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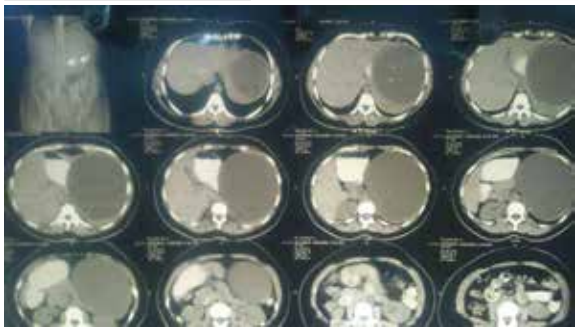

CT PICTURE SHOWING THE CYSTIC LESION ON THE LEFT ARISING FROM THE SPLEEN

Discussion

Benign true non-parasitic splenic cysts cannot be clinically distinguished from other types of splenic cysts. They have an inner lining of epithelial cells and are usually of congenital etiology. Pseudocysts have an inner lining of connective tissue and are usually secondary to blunt trauma or haemorrhage in the splenic parenchyma. Figure 1 Plain abdominal CT scan showing the splenic localization of a large cyst displacing the remaining splenic parenchyma They may also be of infectious and degenerative origin. Both types of splenic cysts do not produce any specific symptoms, until they reach a significant size. Large cysts may cause atypical pain and heaviness in the left hypochondriac region, due to distension of the capsule or space-occupying mechanisms within the abdominal cavity, or they may present as a palpable mass . Indeed, in our patient, symptomatology was atypical with a sensation of fullness and a palpable mass in the left upper abdominal quadrant. Symptoms secondary to pressure on surrounding organs, such as nausea, vomiting, flatulence, and diarrhoea may gradually appear. Also, pressure in the cardio respiratory system may cause pleuritic pain or dyspnea, and irritation of the left diaphragm may cause persistent cough. Occasionally splenic cysts may present with complications, such as infection, rupture and haemorrhages . When a lump is detected in the left upper quadrant of the abdomen, it is necessary to exclude any disease associated with splenomegaly, mononucleosis, fever of unknown origin, hemolytic anaemia, chronic leukaemia's, collagen vascular disease, and liver diseases. Serological studies are useful in excluding most of the abovementioned diagnosis. In our case hematological, biochemical, and serological investigations were negative. Angiography is useful in differentiating a splenic cyst, which is usually avascular, from solid malignant tumours' (lymphoma, sarcoma), which usually have neoplastic vasculature in a disorganized pattern. Ultrasonography is able to see that the cysts are either anechoic or hypoechoic and they have a smooth thin wall, whereas solid tumours are either isoechoic or hypoechoic. In addition, computerized tomography and magnetic resonance imaging may give most of the necessary information, regarding the morphology of the cyst, the composition of the cystic fluid, the location in the spleen, the position of the cyst and its relationship with the surrounding tissues. Calcifications of both the primary and secondary cysts are frequently found, which are useful in diagnosing cysts from other causes of splenomegaly. In our case, ultrasonography and computerized tomography had preoperatively set the diagnosis of solitary unilocular noncalcified splenic cysts. Due to the increased risk of complications in splenic cysts with a diameter larger than 4-5 cm should be managed surgically, because conservative options, such as percutaneous aspiration or sclerosis, do not result in long-term control. There are different types of surgical treatment according to the patient's age and the size, location and nature of the cyst. The classical approach to splenic cysts has been open complete splenectomy. However, there was a trend towards more conservative surgery after the 1970s, because of the appearance of overwhelming life-threatening septicaemia, especially in children who underwent splenectomy. Indeed, the spleen plays an important role in haematopoiesis, immune function, and protection against infections and malignancies. Today the optimal treatment options are partial splenectomy, total cystectomy, marsupialization, or cyst decapsulation (unroofing), accessed either by open laparotomy or laparoscopy . Partial splenectomy preserves more than 25% of splenic parenchyma, which is the minimal splenic tissue to preserve immunologic protection without increasing the risk of recurrence . Partial splenectomy can be performed safely with the laparoscopic approach. This procedure is recommended, if the cyst is located in the poles of the spleen, or if the cyst cavity is deep, due to the higher risk of recurrence . Incision of the splenic capsule and haemostasis is performed with the ultrasonic or the monopolar scissors. A more conservative option could be a partial cystectomy (unroofing) of the cyst. However, it has yet to be determined how much of the cyst wall should be resected, and whether unroofing should be partial or radical. It is supported that as much of the cyst wall as possible should be resected to prevent reclosure of the cyst. Marsupialisation of the cyst is another conservative option recommended for superficial splenic cysts, and can be performed safely with the laparoscopic method. This approach reduces the duration of the operation and carries no risk of recurrence . In general, the laparoscopic management of splenic cysts offers the benefits of minimally invasive surgery: minimal postoperative pain, faster recovery, shorter hospital stay, and reduced morbidity and recovery . However, any type of conservative procedure is difficult to perform, if the cyst is very large, is located in the splenic hilum, or is covered completely by the splenic parenchyma (intrasplenic cyst), or if there are multiple cysts (polycystic cases): in these cases, a complete splenectomy should be performed either using the open or the laparoscopic approach. In our case, the cysts was of significant size and had produced clinical manifestations. Therefore, surgical treatment was absolutely indicated. In tour case, we had to treat large cysts located in the splenic hilum, whereas the splenic parenchyma consisted of a rim of tissue pushed to the periphery. Therefore, both indications were met, location and dimension, and a successful open complete splenectomy was accomplished. Since there was no history of trauma, this cyst was probably of degenerative origin. No neoplastic growth has been found in our case.

Conclusion

In conclusion, splenic cysts larger than 5 cm or symptomatic ones should be treated surgically, trying to preserve as much of splenic parenchyma as possible. If the cyst is very large and almost completely covered by splenic parenchyma, or if it is located in the splenic hilum, complete splenectomy is recommended, because of the risk of intractable bleeding from the spleen. Partial cystectomy (unroofing) could be an acceptable procedure in the majority of other cases. The laparoscopic approach seems to be a safe procedure, having all the benefits of minimally invasive surgery.

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