CASE REPORT

Splenogonadal fusion as a cause of Congenital Left Indirect Inguinal Hernia

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ABSTRACT

Introduction: Splenogonadal fusion (Polysplenia, accessory spleen) in the scrotum, simulating a testicular tumor has been reported as a rare finding, but to be as a congenital indirect inguinal hernia, may be even very rare and not reported before, which warrant recording.

Method: A young patient was presented with left scrotal mass, which has been proved in continuity as a chain of spleniculi within the abdominal cavity. Operation was done, and a hernial sac found, which was opened, a violet-blue mass seen within the content of the spermatic cord and attached to the left testicle close to the head of the epididymis. The testicle, epididymis and the spermatic cord appeared normal. The mass followed upwards inside the abdomen after a left Para median incision was done, a chain of Congenital Spleniculi found started at the hilum of the spleen and tail of pancreas, down through the abdominal cavity, and the left inguinal canal with the spermatic cord, in a peritoneal sac covering leading to a congenital indirect left inguinal hernia. Complete excision of the mass with the chain of spleniculi and herniotomy with modified bassini repair was done.

Conclusion: May be nowadays with the presence of the CT scan, MRI and needle cytological examinations condition can be diagnosed before surgery, still surgery may be needed for the treatment of hernia or of any complication might be happened. Accessory spleens should be removed if symptomatic or if they are identified at splenectomy for hematologic diseases.

Keywords: Splenogonadal fusion, polysplenia, accessorspleen, spleniculi, congenital anomaly, congenital indirect inguinal hernia, testicular tumour
Case Report

A 20-year-old male patient (soldier) was presented to our surgical department in Baquba Military Hospital (IRAQ) in 1987, complaining of painless enlargement of the left scrotal sac which he had for several years.

On Examination

The patient appeared to be a healthy man. No abnormal physical findings could be detected in any of his systems, apart from the abnormal mass inside his left scrotal sac.

The left testicle could not be palpated separately from the mass. There was no impulse on coughing, and we were unable to get above the swelling. It was not possible to differentiate between the mass and the testicle.

The mass felt as oval and elongated and seemed to extend upwards to the inguinal canal, fading out into the abdominal cavity. There was no tenderness, the mass was not fixed to the skin and there were no signs of inflammation.

A professional diagnosis of a possible testicular tumour was set. We decided to do an exploratory laparotomy and the patient was prepared for surgery after his condition was discussed with him and he gave his consent.

Investigations done at that time included:

Routine laboratory tests: General urine examinations, CBC and renal function tests, Radiological examinations including K.U.B. and I.V.U. has been done.

We were unable to use Ultra-sound or even CT scanner as we did not have these facilities at that time in our hospital.

All tests were within normal ranges, and radiology did not show any abnormalities.

Operation

Through a left inguinal incision, inguinal canal opened, and a hernial sac found containing a mass inside it, the sac was opened and a violet-blue mass seen passing with the content of the spermatic cord but not adhered to it down to scrotal sac, the mass was attached by a broad base to the left testicle close to the head of the epididymis. It was separated from testicle by sharp dissection.

The testicle, epididymis and the spermatic cord appeared normal. The mass followed upwards inside the abdomen after a left Para median incision was done, as we realized it was actually a chain of Congenital Spleniculi within the abdominal cavity, which started at the hilum of the spleen and tail of pancreas, down through the abdominal cavity, and the left inguinal canal with the spermatic cord, in a peritoneal sac covering leading to a congenital indirect left inguinal hernia. Complete excision of the mass with the chain of spleniculi was done, herniotomy with modified bassini repair was done too, and abdomen closed in layers. Post operative course was uneventful and patient discharged home at third post operative day and returned back on seventh post operative day for stitches removal.

Histopathology examination of the specimen shows that it was almost completely covered with dense, grey, glistening capsule. It measured 10 x 3 cm as the main tumour mass and 30cm as the whole specimen length (Fig.1&2). It was firm and elastic, the cut sections showed blue-red tissue, with an irregular network of Grayish, fine trabeculae. The microscopic sections showed normal splenic tissue, with rather small follicles, and hyperplastic red pulp (Fig.3&4)
Discussion

Polysplenia (Splenogonadal fusion, accessory spleen) are usually asymptomatic but it may be associated with other congenital malformations affecting other systems. By far the most frequent type is the accessory spleen (polyseplenia) in the presence of a normally formed spleen in correct position at the hilum of spleen and tail of pancreas, it may be found in 10-30% of individuals (1,2,3,4), and the embryologic bases leading to this malformation according to (Wylie J. Dodds): "At about 9 weeks of gestation, the left gonadal anlage begins to migrate toward the pelvis. A discontinuous type of splenogonadal anomaly occurs when some splenic tissue migrates with gonadal tissue. In this case, a normal single spleen is present in the left upper abdomen. In the continuous type of splenogonadal anomaly, a cord of splenic or fibrous tissue connects a normally located spleen with the testes, Epididymis, ovary, or mesovarium. In males, Left-sided cryptorchidism is present. Existence of the splenogonadal Syndrome is generally documented as an Unsuspected finding in individuals undergoing Surgery for other reasons, such as a Splenectomy or oophorectomy." (3)

Actually what we found in our case going with what WJ Dodds mention of the continuous type of splenogonadal anomaly (polysplenia).

Polysplenia has been diagnosed through autopsy (cadaveric) dissection, and usually it has been found as a small size 0.5-6 cm and mainly found near the hilum of spleen, tail or body of pancreas and the true pelvis (4,5) In rare occasions they present as acute abdomen and may be diagnosed only after surgical operation (4, 5, 6, and 7)

With our case and due to the presence of a long-existing testicular mass the possibility of an inguinal hernia and splenogonadal fusion (polysplenia, accessory spleen) was too hard to be considered, especially with out the aid of MRI or CT scan, because even with the aids of these tests nowadays it is not always possible to be diagnosed before surgical exploration (5, 6, 7).

Conclusion:

It has been known that accessory spleen could be found in testicle as a congenital finding but as a cause of congenital inguinal hernia may be this was the first case to be reported as I reviewed the literature and I couldn’t fined any case has been reported before this case. May be nowadays with the presence of the CT scan, MRI and needle cytological examinations condition can be diagnosed before surgery, still surgery may be needed for the treatment of hernia or of any complication might be happened. Accessory spleens should be removed if symptomatic or if they are identified at splenectomy for hematologic diseases.

References


Fig. 1 Surgical specimen of our case of splenogonadal fusion (polysplenia)

Fig. 2 Surgical specimen of our case of splenogonadal fusion (polysplenia)
Fig.3 Microscopic picture of our case of splenogonadal fusion (polysplenia)

Fig.4 Microscopic picture of our case of splenogonadal fusion (polysplenia)