

Case Report

Rare content in congenital inguinal hernia: splenogonadal fusion band

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ABSTRACT

21 years old male underwent elective inguinal exploration for left congenital hernia. Per-operatively, an elongated, purplish-red, fleshy and beaded band of tissue was found inside the sac, adherent to the upper pole of testis. Biopsy was taken and the wound closed. A diagnostic laparoscopy was done in the same setting to visualize the origin of the band proved it to be from spleen. The histo-pathology of the specimen was reported as normal splenic tissue. The above features are consistent with a diagnosis of spleno - gonadal fusion (SGF) (splenic anomaly).

Keywords: Congenital hernia, Spleno-gonadal fusion, Diagnostic laparoscopy, Splenic anomalies

CASE REPORT

A 21 years old male attended our OPD with complaints of a left inguino – scrotal swelling. The swelling was reducible and was present since years of age. On initial examination the sac was felt along with the cord structures in the root of the scrotum. Both testes were descended and the external genitalia was normal. He was diagnosed to have left congenital hernia and underwent elective inguinal exploration. The sac was identified, separated from cord structures and opened. An elongated, purplish-red, fleshy band of tissue was found inside the sac, adherent to the upper pole of testis. Further exploration through the internal ring revealed this tissue was found extending towards the left upper quadrant of the abdomen, trans-peritoneally. Some large vessels were seen on the surface of the band. Gross anatomy of testis appears to be normal. A provisional diagnosis of splenogonadal fusion was made. However, as the relative contribution of the vessels from the band to the vascularity of the testis could not be determined and a pre-operative consent for orchidectomy was not available, it was decided to take a biopsy from this tissue. A vascular clamp was made on the band and viability of testis is ascertained. Band in the inguinal canal was

sewn at deep ring and at upper pole of testis and the band in between them was taken for biopsy. A diagnostic laparoscopy was done in the same setting via an open umbilical approach. Complete abdominal exploration showed a vascular connective band coming out of the left internal inguinal ring and directed towards the spleen. Macroscopic appearance showed the surgical specimen (4x2 cms) to be parenchymatous, with histopathological examination demonstrating the presence of splenic tissue, including red pulp and sinusoids confirming the diagnosis of left continuous splenogonadal fusion. The postoperative course was uneventful and the patient was discharged two days post operation.

DISCUSSION

Spleno-gonadal fusion is a rare congenital malformation in which the spleen is abnormally connected to the gonads or rarely to the mesonephric structures like vas or epididymis.¹ More than 150 cases have been described in world literature so far. Putschar & Manion classified splenogonadal fusion into two types, viz. continuous and discontinuous.² In the continuous variant, the spleen is connected to the gonads by a fibrous cord, a splenic cord or a beaded cord of mixed fibrous and splenic tissue. In

the discontinuous type, the ectopic tissue is attached to the gonads, but no connection with the orthotropic spleen is identified.² The two forms appear to occur with relatively equal frequency. About one fifth of the continuous type cases are associated with other major congenital abnormalities, such as limb defects (ectromelia, peromelia micrognathia, cardiac defects, etc). The male: female ratio is reported to be about 15:1.³

It is believed that the adherence of the splenic primodium to structures derived from the mesonephric ridge occurs between fifth and eighth week of gestation (before the gonadal descent and at the time when the splenic analagelies in close proximity to the left gonad during rotation of the dorsal mesogastrum.⁴ The descent of the testis seems to draw out the developing spleen into a long band in some cases or to detach a portion of the splenic primodium and carry it down with the descending testis in others.⁴

The cause of this condition is still unknown. It probably is the result of a rotation of the stomach to the left with growth of the dorsal mesogastrum, which translocates the spleen to the left side of the abdominal cavity in close proximity to the gonadal ridge. This has been proposed as the mechanism of the fusion between the gonad and the spleen.²

The diagnosis is usually made on the operating table during surgery for hernia, undescended testis or testicular mass. Though a sonogram would be in order for the workup of a testicular mass, a definite diagnosis cannot be made solely on the basis of sonographic findings.⁵ Some authors have resorted to using ⁹⁹Tc – Sulfur colloid imaging to identify ectopic splenic tissue.⁶

An MRI scan is valuable as it gives the necessary soft tissue and vascular delineation. The MR appearance of spleno-gonadal fusion has not been described in literature so far.

Since laparoscopy is now largely available and accepted for pediatric patients, this technique offers many advantages such as definitive diagnosis, low postoperative discomfort and excellent long-term results. The use of diagnostic laparoscopy has been previously reported in children with polyorchidism^{7,8} and in a case report of splenogonadal fusion with an intra abdominal testis.⁹ In our case, direct observation during laparoscopic intraabdominal exploration of the connective vascular cord connected to the spleen, resulted in the correct diagnosis.

There have been previous reports on the use of orchiectomy for the surgical management of continuous type intratesticular extension of splenic tissue or performed in the belief that a malignant process could be present.⁷ There have been 3 reported cases of tumours arising within a splenogonadal fusion in the adult population,^{1,10,11} probably related to cryptorchidism that

is frequently associated with splenogonadal fusion.¹² Ideally, testicular sparing surgery should be performed if possible. In our case the testis was spared because the suspicion of malignancy was considered unlikely, based on preoperative and intraoperative data.

Available literature on the treatment of complete symptomatic SGF is limited. Many of these lesions are detected incidentally during laparotomy for other indications or at autopsy.³ Colonic obstruction secondary to extrinsic compression by the fleshy band has been reported. It may also serve as an axis for small bowel volvulus and knotting, etc. These bands are symptomatic in patients with ITP and hemolytic anaemias. They can be excised with minimal morbidity to the patients. Laparoscopic excision of the band is also a viable option.

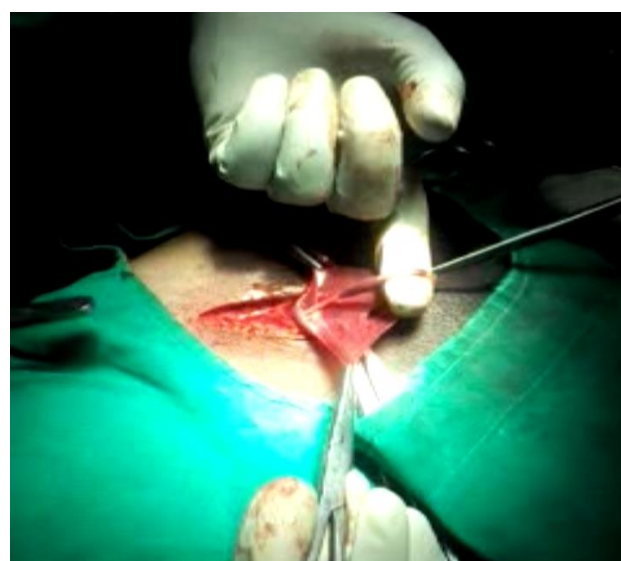


Figure 1: Laparoscopy an open umbilical approach.

CONCLUSION

SGF is a rare congenital anomaly usually presenting as an inguinal hernia or testicular mass. The diagnosis is usually made on the operating table. A prior knowledge about this condition avoids unnecessary orchiectomy.

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