Case Report

Undescended testis in spigelian hernia

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ABSTRACT

Spigelian hernias are uncommon in children. We report a 3-year-old boy with right spigelian hernia and right undescended testis. The hernial sac contained the testis, which is a rare presentation. The repair of the large defect with a prosthetic mesh and a concomitant orchidopexy were performed uneventfully.

KEY WORDS: Spigelian hernia, undescended testis

Spigelian hernias are usually observed in elderly people, usually after 50 years of age. To date, in literature, less than 40 cases have been reported in children.1,2 The age range varies form neonatal age to adolescence.1 Up to 15% of these are bilateral in nature, and there is no gender predilection. The usual contents of the hernial sac are pre-peritoneal fat, small bowel, colon or omentum.1

We report the following case because the hernial sac contained testis, which is a rare presentation.

CASE HISTORY

A 3-year-old boy presented with a large ventral hernia on the right side of the abdomen with a nonpalpable undescended testis on the right [Figure 1]. A clinical diagnosis of spigelian hernia was made on the basis of the characteristic site and weakness of the anterior abdominal wall.

The child was considered for surgery. A right transverse incision was utilized and the thinned out internal oblique was divided. The hernial sac was seen extending from the lumbar region to the inguinal ligament. The neck of the sac was 7-cm wide [Figure 2A]. The sac was opened

Figure 1: Clinical image showing right-sided spigelian hernia

Figure 2: (A) Operative image showing the large unopened sac of spigelian hernia. (B) Opened sac of hernia showing right testis in the sac. Testicular vessels and vas deferens can be clearly observed
and the contents were examined. Surprisingly, the right testis with the vas and spermatic vessels were found within the sac as the content [Figure 2B]. Testis and vas were mobilized and a right orchidopexy was performed. After closing the sac, the internal oblique was sutured to the inguinal ligament. The Vicryl and Prolene (VYPRO) mesh was sutured over the internal oblique extending from the subcostal region to the inguinal ligament. The external oblique was sutured over the mesh. The postoperative period was uneventful.

**DISCUSSION**

The transversus abdominis muscle becomes aponeurotic at the semilunar line that stretches from the ninth rib to the pubic tubercle. The part of the aponeurosis between the semilunar line and the lateral edge of the rectus muscle is called the spigelian aponeurosis. This area of transition is an area of potential abdominal wall defects. It is through such a defect that a spigelian hernia emerges, passing between the fibers of the overlying internal oblique muscle and spreading out deep to the external oblique muscle.[1] Various theories such as defective interlacing of the muscle fascicles at semilunar line, neurovascular openings in the fascia, infiltration of muscle layers with fat and muscle palsy have been described; however, none of them can consistently explain the occurrence of these hernias.[1]

The spigelian hernia is interparietal and may be difficult to diagnose. In children, due to the paucity of fat, clinical diagnosis is performed more easily than in adults. In the pediatric age group, most of these hernias have been clinically diagnosed, except in one circumstance where the initial diagnosis was thought to be acute appendicitis.[1]

Spigelian hernia by itself is rare in children and less than 40 cases have been reported thus far in the pediatric age group.[2] Undescended testis has been reported in up to 28% of the children presenting with spigelian hernia, although undescended testis as the content in the hernial sac itself is a rare occurrence.[1-7] Given the high incidence of this association, there has been considerable speculation and controversy regarding this mechanism. According to the general viewpoint, spigelian hernia is the primary defect and the undescended testis takes the path of least resistance to descend and lie in the hernial sac accounting for this association.[1,3] This view has recently been challenged by Raveenthiran; according to him, ectopic location of the testis is the primary abnormality, and it leads to formation of spigelian hernia by dragging a peritoneal sac along with it.[2]

In the present case, the defect was a large one, and it occurred in the classical spigelian belt. In the presence of a large area of weakness near the usual location of the intra-abdominal testis, mechanical forces favor the displacement of the testis into the hernial sac. We think that this mechanical theory accounts for the presence of the testis in the sac of the spigelian hernia rather than the testis causing the hernia. If it were not so, then given the high incidence of undescended testis, we would have observed many more cases of this association. Till now only a handful have been reported. Therefore we would argue against labeling this chance occurrence as a new syndrome when mechanical forces can suitably explain the association.

Twenty percent of spigelian hernias in children present with strangulation. The high risk of incarceration and strangulation renders operative repair the treatment of choice. However in recent literature, ultrasound-guided reduction of the incarcerated spigelian hernia has been reported followed by later elective repair.[8]

Most of these defects have been reported to be less than 3 cm in size, and an anatomical repair has been done.[1] In the present case the defect was huge (7 cm), and it extended from hypochondrium to pubic region. We chose to re-enforce the repair with a prosthetic mesh to provide added strength to area of weakness. The recurrence rates following such repairs have been reported to be very low in adults.[8]

In conclusion, spigelian hernia is rare in the pediatric age group. The incidence of cryptorchidism is high in these cases, and the testis is frequently found in the sac owing to mechanical factors. The repair of the hernia and orchidopexy can be easily performed as the length of the testicular vessels is sufficient for a tension-free orchidopexy.

**REFERENCES**


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