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Congenital spigelian hernias and cryptorchidism

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Abstract

Purpose: Spigelian hernias in childhood are rare. Only 24 infants in the English literature have been identified to have spigelian hernias, and 12 of these have been associated with cryptorchidism. Spigelian hernias are more commonly seen in the adult population and are considered to be acquired because they are typically associated with trauma or other etiologies of increased intraabdominal pressure. In the infant however, the etiology remains unclear, but a congenital defect in abdominal wall development is suspected.

Methods: We discuss the presentation and treatment of 4 additional patients with spigelian hernias (2 siblings included) associated with cryptorchidism.

Results: The hernias occurred within the well-described spigelian hernia belt in the semilunar line at the level of the semicircular fold of Douglas. Of the 6 repaired spigelian hernias, 5 were closed primarily with absorbable suture similar to previously reported cases; the sixth hernia required a patch closure because of its large size. All cryptorchid testes (7) were repaired in single-stage orchiopexies.

Conclusions: Spigelian hernias are rare entities in infants. We present 4 new cases of spigelian hernias associated with cryptorchidism and, with previously reported cases, discuss the probability of a congenital origin of these hernias in infants.

Spigelian hernias in childhood are rare. To date, 24 infants in the English literature have been reported to have spigelian hernias [1-10]. Interestingly [1-10], 12 (75%) of 16 male infants have had associated cryptorchidism. Also known as lateral wall ventral hernias, spigelian hernias are more commonly seen in the adult population and are considered to be acquired because they are typically associated with trauma or increased intraabdominal pressure (pregnancy, chronic respiratory illness, or obesity) [11]. In infants however, the etiology remains unclear, but a congenital defect in abdominal wall development is suspected. Similarly, the etiology of undescended testes remains unclear. Relationships between abdominal wall defects and cryptorchidism are suspected but have not been clearly elucidated. In this article, we discuss the presentation and treatment of 4 new cases of infants with spigelian hernias (including 2 siblings), all of which were associated with cryptorchidism.

1. Case reports

1.1. Patient 1

An 8-month-old boy with a left undescended testicle was found to have a bulge in the left lower lateral abdominal

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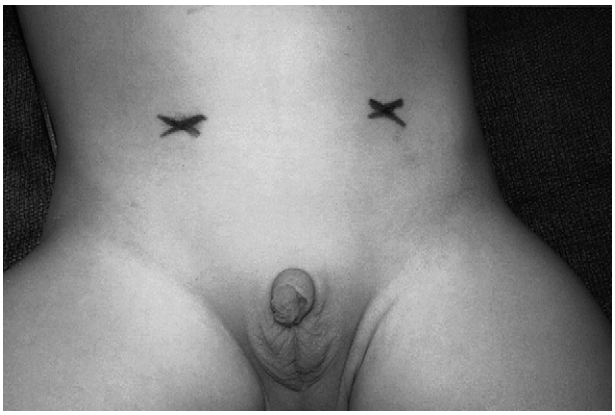

Fig. 1 Patient 4 in the operating room before hernia repair and orchiopexy. The "X's" mark the sites of suspected spigelian defects within normal position of the spigelian belt. Note the hypoplastic scrotum.

wall just lateral to the rectus muscle during a visit to the pediatrician for an ear infection (Fig. 1). A spigelian hernia was diagnosed, and in the operating room, a transverse incision was made over the palpable mass. A muscle splitting incision was made through the intact external oblique muscle and fascia, beneath which a hernia sac and defect were noted through the internal oblique muscle. The left testis was palpated within the hernia sac. The vas and vessels were found to be adherent to the posterior wall of the sac. Once dissected, the hernia was ligated. A "new" internal ring was made through the abdominal wall medial to the inferior epigastric vessels and just lateral to the pubic tubercle. The abdominal wall was reconstructed using absorbable sutures. The testis was then passed down into the scrotum, where it was anchored in a subdartos pouch. His course was complicated by a scrotal abscess 2 weeks postoperatively. After drainage, the patient has been lost to follow-up.

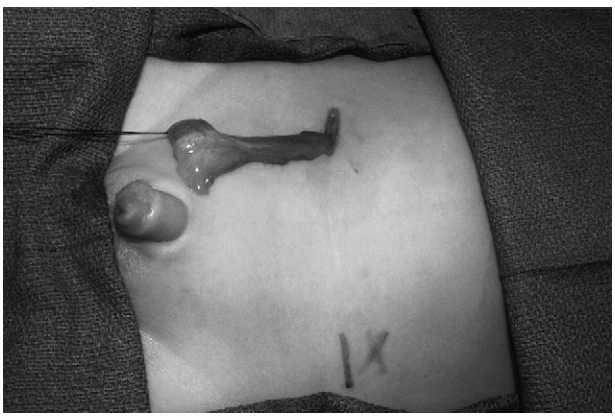

Fig. 2 Right-sided undescended testicle found below the spigelian defect after mobilization for orchiopexy. The testicle appears to be viable and to have a normal contour, size, and appearance.

1.2. Patient 2

A 13-month-old boy was known to have a bilateral undescended testes and bilateral spigelian hernias. He underwent a staged repair of the spigelian hernias and the cryptorchidism; the right-sided hernia repair and orchiopexy were performed at 13 months of age, whereas the left-sided hernia and cryptorchidism were repaired at 16 months of age. Hernia incisions were made directly over the main bulges at each operation. Anatomically, both spigelian defects were noted in typical positions, deep to the external oblique muscle coming through the aponeurotic fascia, whereas the undescended testes were found just beneath the fascial defects. The testes were mobilized from the respective hernia sacs and were placed into ipsilateral subdartos pockets without tension using the same technique as in patient 1 (Figs. 2 and 3). The spigelian defects were closed by first reapproximating the peritoneum using running 3-0 absorbable sutures. Because of the size of the right-sided defect, 8-ply SIS mesh (Cook Biotech Inc, West Lafayette, IN) was used to reconstruct the abdominal wall. The left hernia was closed in layers with running absorbable sutures. Thirty-four months after his initial repair, physical examination revealed well-healed incisions, normal size/texture of both testicles, and durable repairs of both hernias; a slight laxity however was noted in the right-sided abdominal wall where the SIS patch (Cook Biotech Inc, West Lafayette, IN) was used.

1.3. Patient 3

A 14-month-old boy with bilateral undescended testes and a right-sided spigelian hernia (discovered on examination after the presence of a right lower abdomen bulge was noted by the family upon crying) was taken to the operating room for repairs of the hernia and the undescended testes. While in the operating room, a previously unrecognized, left-sided spigelian hernia was also noted. On both sides, beneath the external oblique fascia, the hernias separated the fibers of the internal oblique musculature. The testicles were found in the ipsilateral spigelian hernia sacs. Bilateral

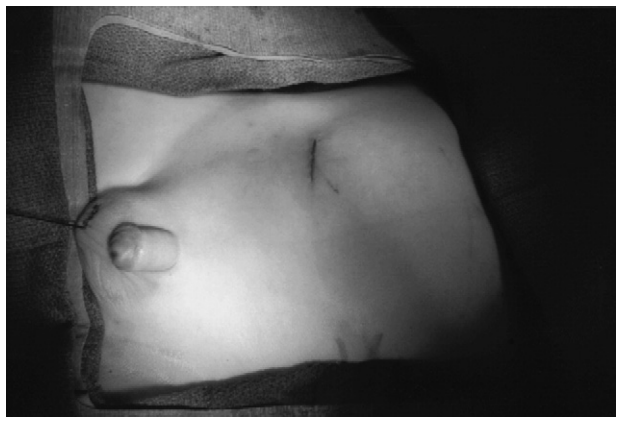

Fig. 3 Completed repair of the right-sided spigelian hernia and orchiopexy.