

Anterior abdominal wall ectopic testes: a report of two cases

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Undescended testis (UDT) is a common anomaly of the male reproductive system affecting about 2% to 4% of male infants more commonly preterms. If the testis remains in the line of normal descent, it is classified as an UDT. If it is not in the line of normal descent, it is termed an ectopic testis. Common sites of ectopic testes are perineal, transverse ectopia, pubopenile and femoral. To the best of our knowledge only two cases of anterior abdominal wall ectopic testis have been reported in the literature. We present here two cases of anterior abdominal wall testis, one of which was associated with indirect inguinal

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Introduction

Undescended testis (UDT) is a common anomaly of the male reproductive system. It affects about 2–4% of male infants, more commonly preterm infants [1]. Indirect inguinal hernia is a common association [2]. If the testis remains in the line of normal descent, it is classified as an UDT. If it is not in the line of normal descent, it is termed an ectopic testis [2]. The common sites of ectopic testes are the perineal, transverse ectopia, pubopenile, and femoral regions. Ectopic testis is believed to be due to an abnormal migration of the genitofemoral nerve [2]. To the best of our knowledge, only two cases of anterior abdominal wall ectopic testis have been reported in the literature [3,4]. We would like to present two cases of anterior abdominal wall testis, one of which was associated with indirect inguinal hernia.

palpated in the inguinal region or in the common ectopic sites. The right testis was present in the normal position and was of normal size.

With a provisional diagnosis of undescended left-sided testis, the child was explored through an inguinal incision. At surgery, it was found that the deep inguinal ring was wide with a hernial sac emerging through it. After emerging from the external ring, the sac extended upwards and to the left between the abdominal wall muscles and fascia. The left iliac fossa swelling turned out to be an inguinal hernia. On opening the sac, a testis of normal size emerged. Hence, a herniotomy, narrowing of the deep inguinal ring, and orchiopexy were performed. The child recovered well and was discharged. On follow-up the child was fine and both testes were present in their normal position (Fig. 1).

Case 1

A 9-month-old boy, who was otherwise medically healthy, presented with left iliac fossa swelling increasing in size for 2 months' duration. Examination revealed a 4 × 4 cm reducible swelling possessing a gurgling sensation, increasing in size with straining; besides, the left half of the scrotum was empty. The left testis could not be

Case 2

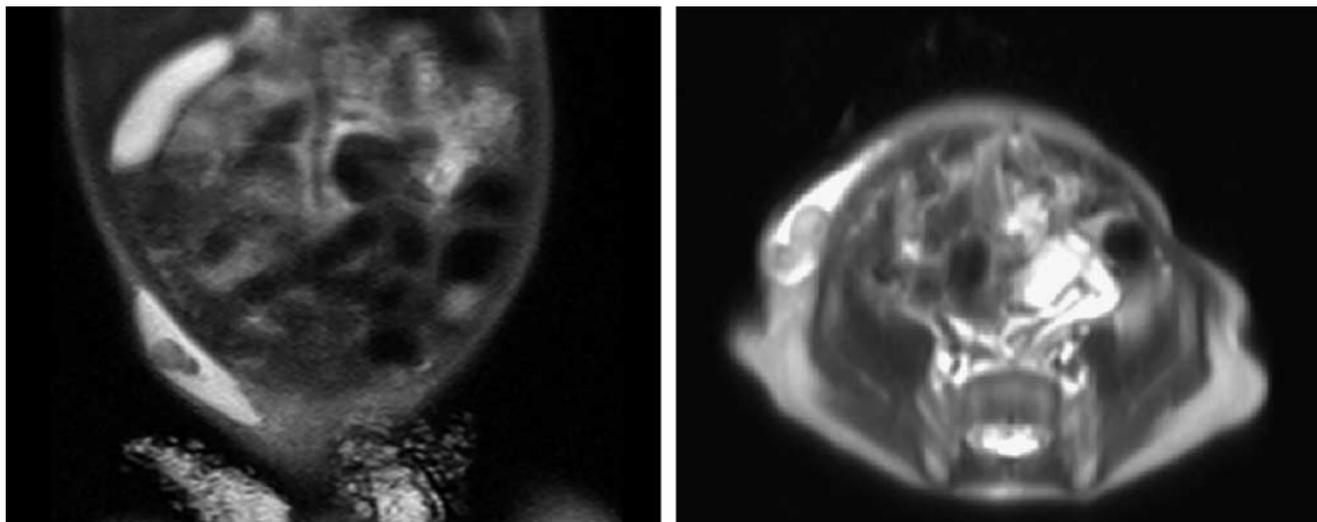
A 6-month-old boy presented with empty right hemiscrotal compartment since birth. The patient also suffered from congenitally absent left kidney, right grade IV vesicoureteric reflux, patent ductus arteriosus, and dextrocardia. On examination, the testis could not be palpated in the inguinal region or in the usual ectopic

Fig. 1



(a) The left iliac fossa with reducible swelling. (b) appearance of the hernia sac as soon as the fascia was opened. (c) testis can be seen.

Fig. 2



MRI showing anterior abdominal wall ectopic testis.

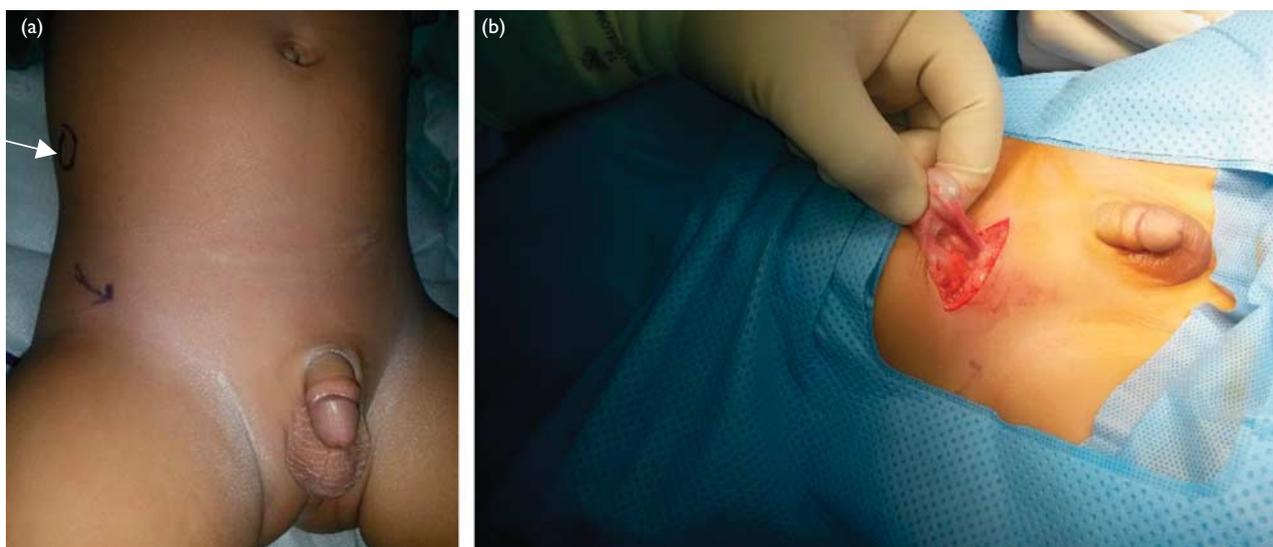
locations. The left testis was present in the left hemiscrotum and was of adequate size. Ultrasonography was performed and a testis-like structure was identified between the abdominal wall fascia and muscles midway between the umbilicus and the right anterior superior iliac spine. Sonographic findings were confirmed with MRI.

The child was explored through an inguinal skin crease incision. At surgery it was found that, after emerging through the external ring, the cord took a U-turn to the right and went upwards into the abdominal wall. There was no patent processus vaginalis. There were some bands fixing the testis onto the abdominal wall. Orchiopexy was performed. At follow-up, the child was doing well, and the testis was present in its normal position (Figs 2 and 3).

Discussion

The etiology of ectopic testis is not very clear. As a testis located in the superficial inguinal pouch is now considered a variant of UDT [5,6], the perineal region is the most common site for ectopic testis, followed by the transverse region. Pubopenile and femoral ectopia are even rarer [5,6]. Rao *et al.* [4] presented a case of anterior abdominal wall ectopic testis associated with inguinal hernia, which was thought to be a neurofibroma. Pandey *et al.* [3] presented another case of anterior abdominal wall ectopic testis associated with inguinal hernia, which was preoperatively thought to be a spigelian hernia. Lockwood [7] suggested the five slips of the gubernaculum's theory to explain common sites for ectopic testis. However, this theory does not explain the abdominal wall as an ectopic site. Recently, calcitonin gene-related peptide, a neurotransmitter re-

Fig. 3



(a) Circle at arrow tip marking the site of anterior abdominal wall testis, which could be palpated after localization by MRI. (b) Testis fixed onto anterior abdominal wall by some bands.

leased by the genitofemoral nerve, is believed to have a role in testicular descent by providing a chemotactic gradient to guide the migration of gubernaculum [2,8]. Ectopic testis will never descend into the scrotum by itself and so early surgery is advocated, and the long spermatic cord makes it an easy operation.

Mohta and Gupta [9] presented a case similar to our first case, in which an inguinal hernia presented as a spigelian hernia. Raveenthiran [10] described an association between spigelian hernia and UDT. In our first patient, we did not find any muscular defect during operation. Moreover, ligation of the peritoneal sac at the deep ring resulted in the cure of the patient. From this description, it is obvious that they are not cases of UDT associated with a spigelian hernia.

Conclusion

Abdominal wall ectopic testis is a distinctive variant of ectopic testis, which cannot yet be explained embryologically.

Acknowledgements

Conflicts of interest

There are no conflicts of interest.

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