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Ectopic testis in children: Experience with seven cases

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Abstract

Background: Ectopic testis is a rare congenital anomaly in which the testis is abnormally located away from normal line of decent.

Aim: To report varied clinical presentation, embryogenesis, and management aspects of ectopic testis with a brief review of the literature.

Materials and Methods: A retrospective chart review of children with undescended testis from January 2008 to August 2011.

Results: Seven children (3.6%) treated for ectopic testes were diagnosed among 190 children operated on for undescended testis. There were five perineal testes, one penile testis, and one transverse testicular ectopic testis. Laparoscopy was the diagnostic and therapeutic modality in transverse testicular ectopia. Other ectopic testes were managed by open orchidopexy. The length of the testicular vessels and vas deferens was adequate in every case.

Conclusion: Examination of boys with an empty scrotum should include examination of ectopic sites as well. The gubernaculum bulb has preprogrammed growth toward the scrotum unless anatomical blockade prevents its descent. Open orchidopexy reveals normal characteristics of perineal, penile testis, and its elements. Surgical correction for ectopic testis as early as possible facilitates proper psychological development and prevents complications.

The absence of testes in their orthotopic scrotal position is the most common genitourinary anomaly noticed in 0.2% to 1% of men [1]. This may be due to undescended or arrested descent of the testes, in which the testis is located along the normal pathway of descent between the retroperitoneum, through the inguinal canal and the scrotal entrance. Five percent of these absent testes are ectopic testis (ET) making it a relatively rare entity [2]. ET can be located in the perineum, femoral canal, penile, contralateral side of the pouch, inguinal canal or deep ring (transverse testicular ectopia), and rarely in very unusual sites such as preperitoneal location and the anterior abdominal wall.

Among these, the perineal location between the peno-scrotal raphe and the genitofemoral fold is the most frequent location of ectopic testis. Perineal testis (PT) is seen in 1% of the cases of empty scrotum [2]. Transverse testicular ectopic testis (TTE) is also rare, where the testes migrates to the contralateral side and can present as a hernia or with Müllerian structures [3]. Penile testis is rarely reported [4].

Detailed clinical examination of normal pathway of descent sites and all probable ectopic sites is indispensable in the management of empty scrotum.

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2. Materials and methods

One hundred ninety children with undescended testis (UDT) were admitted to the pediatric surgery service at the Department of Pediatric Surgery, VaniVillas Hospital, Bangalore, India from 2008 to 2011. Of these, records of patients with ectopic testis were analyzed for presentation and management (Table 1).

3. Results

In seven children (3.7%) the absent testes were ectopic. Age at presentation varied between 2 weeks to 11 years. The diagnosis was made on clinical examination of the scrotum, perineum, penile, inguinal region, and at laparoscopy. There were five PTs, one penile, and one TTE.

All patients underwent orchidopexy once the diagnosis was made. All PTs (Fig. 1) and penile testis (Fig. 2) were managed by open orchidopexy. All had adequate length of the vas deferens and gonadal vessels to reposition the testis in a sub-dartos pouch. PT and penile testis had the gubernaculum adherent to the perineum and penile region respectively. Connective tissues had obliterated the scrotal entrances.

Laparoscopy was done for the one child having a right non-palpable testis (NPT) and left palpable UDT with hernia. It showed the left testis exiting out of the internal ring, a wide-open processus vaginalis (Fig. 3), and a medially patent second hernial orifice (direct hernia) (Fig. 4) and a closed right inguinal deep ring. The right testis, vas deferens, and their vascular supply had crossed over to the left along with the aberrant gubernaculum and were lying just medial to left deep inguinal ring (Fig. 5). The right testis was brought down easily laparoscopically with its vascular supply. Open orchidopexy for the left palpable testis revealed a pantaloon hernia and hence the boy underwent a concomitant herniorrhaphy.

Table 1 Age, clinical presentation and management of seven cases of ectopic testis.

Serial no.	Age	History of empty scrotum	Findings	Surgery
1	1.5 years	L	(L) PT	O
2	1 years	B/L	(R) PT and (L) NPT	O,L
3	2 weeks	R	(R) PT	O
4	2 months	R	(R) PT	O
5	11 years	R	(R) PT	O
6	2 years	B/L	(L) Hernia with palpable testis and R NPT (TTE)	O,L
7	5 months	L	Penile testis	O

NPT, non-palpable testis; R, right; L, left; B/L, bilateral; L, Laparoscopy; O, open orchidiopexy.

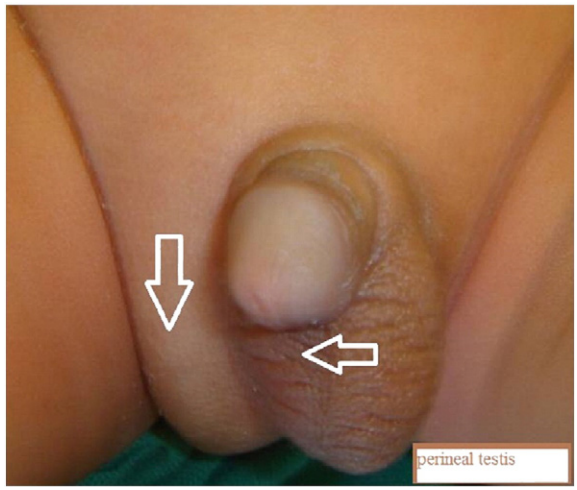

Fig. 1 Empty scrotum (left arrow) with a palpable ipsilateral perineal mass (arrow down).

Diagnostic laparoscopy of the PT child with NPT on the contralateral side had revealed the vas deferens and gonadal vessels exiting the deep ring. Hence open orchidopexy was done on both sides. Postoperative recovery of all children was uneventful except the child with a penile testis who had convulsions postoperatively, but recovered and was discharged. Follow-up ranged from 6 months to 1 year and were all asymptomatic with their testes palpable in a normal scrotal location.

4. Discussion

Testicular descent involves both a transabdominal and inguinoscrotal phase which starts from 7th to 35th weeks of gestation [1]. PT and penile testis may result from abnormal

Fig. 2 Penile testis at the root of penis (left arrow).