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Original Research Article

Presentation and management of undescended testes: a prospective study

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ABSTRACT

Background: Cryptorchidism is one of the most common disorders encountered in pediatric urology. This can lead to infertility, higher risk of testicular trauma, testicular malignancy, torsion testis, and strangulation of associated inguinal hernia. Hence a study was conducted to evaluate the presentation, complications, and the management of undescended testis.
Methods: Patients presented with undescended testis to the General Surgery Department in a tertiary center from November 2012 to May 2014 were included in the study.
Results: A total of 40 patients studied during the study period. Thirty-four (85%) testes were palpable. Twenty-four (60%) testes were intracanalicular in position. Thirty-eight (95%) patients underwent orchidopexy and two (5%) underwent ochidectomy (one gangrenous torsion testis and one nubbin). Three (8%) patients developed hematoma; one had superficial surgical site infection. No patient developed testicular atrophy, and no one developed ascending testis.
Conclusions: Cryptorchidism is one of the most common disorders of pediatric age. Early diagnosis and treatment is of paramount importance. Correction of cryptorchidism is indicated to optimize testicular function, potentially reduce and/or facilitate diagnosis of testicular malignancy, provide cosmetic benefits, and prevent complications such as a clinical hernia or torsion.

Keywords: Cryptorchidism, Testicular torsion, Testicular atrophy, Undescended testis

INTRODUCTION

Cryptorchidism is one of the most common disorders encountered in pediatric urology and has been studied extensively. It is one of the most common congenital anomalies, occurring in 4% to 5% of full-term and 9% to 30% of preterm male neonates.[1] Approximately 70% to 77% of cryptorchid testis will spontaneously descend, usually by 3 months of age.[2] By one year of age, the incidence of cryptorchidism declines to about 0.8 to 1.2% and remains constant throughout the adulthood.[3] During the course of testicular development and its descent from the abdomen to scrotum, it may arrest to descend in the path of descent. Histological changes start as early as six months of life; furthermore, more proximally situated testes are more severely affected. This leads to infertility, higher risk of testicular trauma, testicular malignancy, torsion testis, and strangulation of associated inguinal

hernia. Therefore, its early diagnosis and treatment is of paramount importance.[1-3]

Hence a study was conducted to evaluate the presentation, complications, and the management of undescended testis in the population.

METHODS

A prospective study of patients with undescended testis presented to a tertiary center between November 2012 and May 2014 was performed. All patients with undescended testis were included. The patients with retractile testes, ectopic testis and those who were not willing for surgery were excluded from the study.

An informed consent was taken. Careful history was taken from selected patients who then underwent general and systemic examination. Boys were examined in supine and, if possible, upright cross-legged and standing positions. The abduction of the thighs contributes to inhibition of the cremaster reflex or testicular elevation elicited by scratching the inner thigh. The examination included documentation of testicular palpability, position, mobility, size, and possible associated findings such as hernia, hydrocele, penile size, and urethral position. Intro-operative site and size were documented.

The patients with palpable undescended testes underwent open orchidopexy. The patients with impalpable testes underwent diagnostic laparoscopy. If the testis was intra-abdominal by diagnostic laparoscopy, Fowler-Stephen's single stage orchidopexy was done. And if the vas and vessels were exiting through the deep ring, an inguinal exploration was carried out. All nubbins underwent excision. The patients were followed up at two weeks, six weeks, three months, six months, and one year during the period of study. On follow-up, patients were examined for testicular position and size. They were also examined for wound infection as per CDC guidelines.[4]

RESULTS

A total of 40 patients studied during the study period. The majority (58%) of patients belonged to 1-3 years of age. The youngest one was seven months and the oldest was 12 years of age. The most common presentation was an absence of testis 31 (78%) patients. Groin swelling was present in 11 (28%) patients, pain in seven (18%) patients. Nine (23%) patients presented with complications (Figure 1). Twenty-seven (68%) patients had right sided undescended testis, and all had unilateral undescended testis.

Thirty-four (85%) testes were palpable. Twenty-four (60%) testes were intracanalicular in position (Figure 2). Among these 24 patients, 22 were palpable testis and two were impalpable. All the 12 (30%) emergent testes were palpable, whereas all four (10%) intraabdominal testes were impalpable (Figure 3). Hernia was the most common complication, occurring in six (15%) patients, followed by trauma three (7.5%) patients and torsion of the testis one (3%) patient. None of the undescended testes had malignancy (Figure 4).

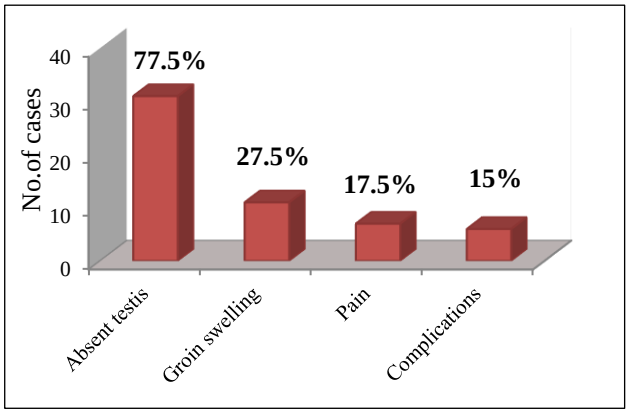


Figure 1: Clinical presentation of undescended testes.

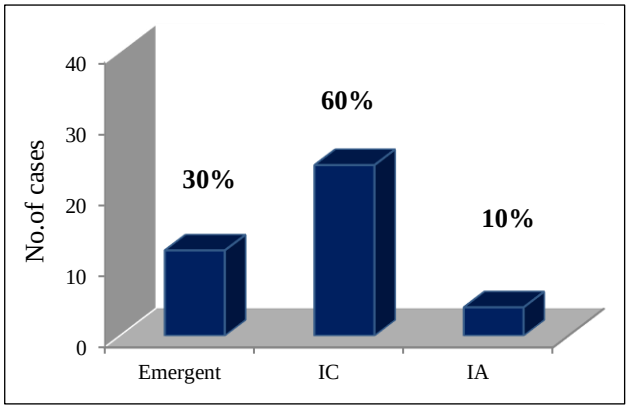
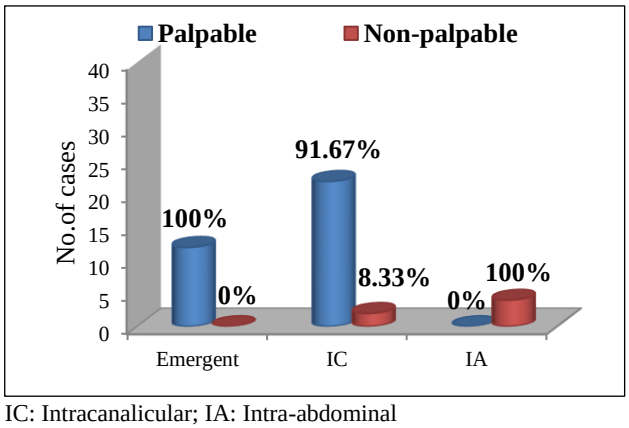


Figure 2: Location of undescended testes.



IC: Intracanalicular; IA: Intra-abdominal

Figure 3: Relationship between the position and palpability of testes.

Thirty-eight (95%) patients underwent orchidopexy and two (5%) underwent orchidectomy (one gangrenous torsion testis and one nubbin) (Table 1). Thirty-four

(85%) underwent open orchidopexy, among them 26 (65%) had mid and low inguinal testes and eight (20%) had high canalicular testes. Four (10%) cases underwent Fowler-Stephen's single stage orchidopexy.

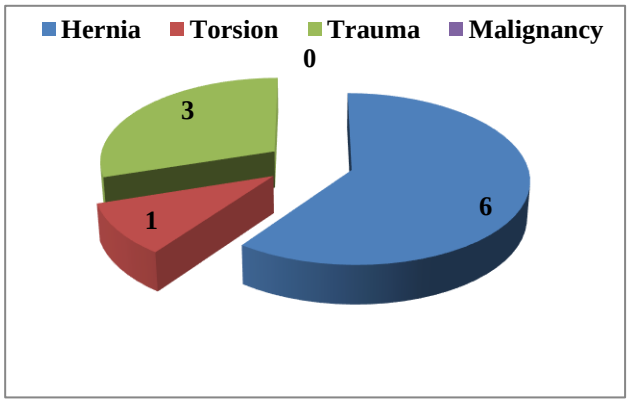


Figure 4: Complication of undescended testes.

Three (8%) patients developed hematoma; one had superficial surgical site infection. All these patients were managed conservatively. Duration of hospital stay ranged from five to eight days with the mean duration of stay being six days. No patient developed testicular atrophy, and no one developed ascending testis.

DISCUSSION

Cryptorchidism or undescended testis is the most common disorder of the male endocrine glands in children. One-third of boys with true cryptorchidism have bilaterally cryptorchid testes, whereas two-thirds are unilateral.[1-3] The main reasons advocated for treatment of cryptorchidism are increased infertility in unilateral and bilateral cryptorchid patients, increased testicular malignancy rate, increased risk of developing an inguinal hernia, testicular torsion, injury against the pubic bone, and the psychological stigma of an empty scrotum. Spontaneous descent may occur in the first six months of life. The prevalence decreases to about 0.8% in full-term infants and 10% in preterm infants and remains there essentially throughout the adulthood. This study was conducted to find out the mode of presentation, laterality, association, types of surgery, complication of surgery, and follow-up of undescended testes.

Table 1: Management of undescended testes.

Type	Standard single stage orchidopexy		Fowler stephens single stage orchidopexy	Two stage orchidopexy	Orchidectomy
	High inguinal testis	Mid and low inguinal testis			
No. of cases	8	26	4	0	2

The most common age of presentation was 1-3 years (57.5%). The youngest was six months old and the oldest was aged 12 years. The most common age group for undescended testis was 3-7 years as per Iacob RE et al.[5] In the present study the most common presentation was the absence of testis 31 (77.5%) which is consistent with the literature.[3] Next common symptom was swelling in the groin 11 (27.5%), followed by pain 7 (17.5%) and symptoms of complications 6 (15%).

Author found the right side was most common (68%) which was consistent with other studies such as Ashley RA et al and Mouriquand PDE.[6,7] Right sided testis descends later than the left, and hence right side is commoner than left.

Present study found intracanalicular location as the most common site of undescended testis which was supported by other studies such as Hadziselimovic et al.[8]

Thirty-eight out of 40 patients in present study underwent orchidopexy. Two cases ended up in orchidectomy, one for nubbin and the other for gangrene secondary to torsion. On follow-up, none of the orchidopexy patients had either atrophy or ascended, indicating 100% success. A study by Taran I et al, also demonstrated more than 95% success.[9]

The hematoma was seen in three patients and wound infection in one patient post-operatively. Nijs SMP et al had an atrophy rate of 16% for open orchidopexies for peeping or intraabdominal testis on long-term follow up. None of the patients developed testicular atrophy testis.[10]

CONCLUSION

Cryptorchidism is one of the most common surgical disorders of pediatric age. The most common presentation was an absence of testis. The right side was most commonly affected.

The majority of undescended testes were palpable. The orchidopexy was the treatment of choice although the orchidectomy was indicated in atrophied or nubbin testis. Hence an early diagnosis and treatment is must to avoid complications.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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