

Case Report: A Rare Case of Ascending Testicle in an Adult Following Inguinal Hernial Repair

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ARTICLE INFO	ABSTRACT
Published Online: 26 October 2024	Ascending testicle (AT) is a rare complication after repair of an inguinal hernia reported in pediatrics. In this case report, we describe a rare occurrence of an ascending testicle in a 22-year-old adult male following laparoscopic bilateral inguinal hernioplasty. The patient presented with a retracted left testis, which had ascended to an ectopic position within the left inguinal canal. This case underscores the importance of recognizing and managing this uncommon complication in the adult population.
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BACKGROUND

The term "Ascending testis" refers to a situation in which a testicle, having initially descended into the correct position during infancy, subsequently ascends to an ectopic position within the body, typically found in the high scrotal or low inguinal region. This phenomenon is observed in pediatric cases as a complication following the surgical repair of inguinal hernias. It should be distinguished from another complication, namely, the iatrogenic failure to properly reposition the testicle within the scrotum during hernia repair and the congenital undescended testis, which fails to migrate into the scrotum before birth. Testicular ascent describes the spontaneous migration of the testicle into the inguinal canal after it has been correctly positioned [1].

The occurrence of an ascending testicle following the repair of an inguinal hernia in children is quite rare, with reported rates ranging from 0.058% to 0.43% [1] [2]. Data have been collected on this complication in pediatric patients, but no instances have been reported in adult patients.

CASE REPORT

A 22-year-old male presented to Al Imam Abdulrahman Al Faisal Hospital (Riyadh, Kingdom of Saudi Arabia) on October 26, 2023, complaining of retracted left testicle post inguinal hernial repair. 10 days ago, the patient underwent laparoscopic bilateral inguinal hernioplasty for big inguinoscrotal hernia on left side which was on going for 6 years and increased in size recently, and small right direct inguinal hernia that appeared one month ago. Intraoperative repairing of left side hernia was difficult and with a lot of

adhesions, unlike the right-side repair which was easy and straight forwarded. His post operative course was complicated by left ascending testicle. On scrotal examination left testicle wasn't palpable in scrotum nor inguinal area and right testicle is normally placed and palpable.

Scrotal ultrasound and pelvic CT (Figure 1) were done revealing empty left hemiscrotum and left testicle located proximal to the internal orifice of left inguinal canal, the testicle was normal in size, echotexture and had normal intratesticular vascular flow. Average size, shape, and position of right testis.

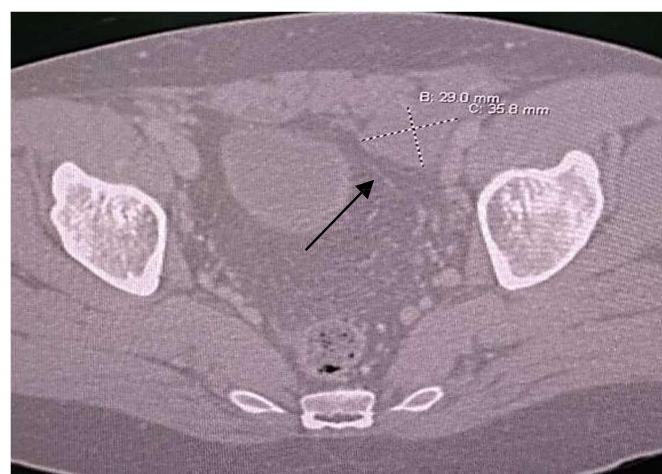


Figure 1. CT scan of pelvic revealing left testicle located proximal to left inguinal canal [At tip of arrow].

DISCUSSION

The emergence of ascending testicles after surgical correction of inguinal hernias has been documented in the pediatric literature, and it is recognized as an infrequent postoperative complication within this demographic, exhibiting an incidence that varies between 0.058% and 0.43%. [1] [2].

The exact etiology is poorly understood, yet one of the possibilities suggest that the iatrogenic failure to replace the testicle in scrotum after the repair. Other studies assumed that ascending testicle after the repair of an inguinal hernia was caused by adhesion of the spermatic cord [2].

A large study was performed on 3776 pediatric inguinal hernia and hydrocele cases [3], showed the incidence of AT to be <1% after an open operation. This led to the assumption of adhesions on spermatic cord in inguinal canal as the cause of AT. [2]

However, this mechanism only explains the incidence post open inguinal herniorrhaphy, where spermatic cord is dissected making it more prone to adhesions with inguinal canal, and consequently AT occur [4, 5]. Laparoscopic approach leaves less scarring, hence, less adhesions on spermatic cord. Unexpectedly this causes no significant difference in the incidence of AT following laparoscopic or open repair [5] [2].

Ascending testicle should be distinguished from another complication that may occur during inguinal hernia repair, which is the iatrogenic failure to correctly reposition the testicle within the scrotum. These two complications involve different mechanisms and necessitate distinct management approaches.

Ascending testicle can have significant clinical implications as it leads to infertility concerns, as an improperly positioned testicle may result in impaired sperm production or transport and the fertility problems might get worse if it goes untreated for long time [6].

Additionally, the ectopic position of the testicle may cause discomfort, pain, and cosmetic concerns for the patient, also increased incidence of testicular torsion which is known for being sudden severe pain in groin [7].

Early diagnosis and management are essential for better outcomes. Ultrasound scrotum imaging is a valuable tool in assessing the position of the testicle. MRI has greater sensitivity and specificity in locating testicles, however it might require sedation in pediatrics to be as effective [8].

Laparoscopy can be used in cases of unpalpable testicle which will allow for both 100% accurate diagnosis, locating and, concurrent surgical correction [8] [9].

Surgical intervention is frequently necessary for the correction of an ascending testicle, involving its relocation to the proper scrotal position through a procedure known as orchiopexy. The decision between a standard orchiopexy and a two-stage Fowler- Stephens approach depends on the testis's mobility observed during laparoscopic examination. If

the testis can be easily mobilized, a standard orchiopexy is performed. However, if insufficient mobilization prevents the testis from passing through the inguinal canal into the scrotum without tension, the two-stage Fowler- Stephens approach becomes a viable option. During the initial stage, laparoscopic identification of the testis is conducted, followed by the ligation of its vascular supply with minimal dissection of the spermatic cord. Subsequently, after a lapse of several months, the patient undergoes a second laparoscopic procedure wherein the testis is identified, and its viability is evaluated. If determined to be viable, peritoneal attachments are released, facilitating adequate length for the testis to reside in the scrotal pouch without tension.

It is important to involve urologists and surgeons experienced in managing such cases.

The phenomenon of an ascending testicle is recognized as a rare complication arising from pediatric post-inguinal hernia repair or hydrocele. Notably, this complication has not been documented in the adult population, resulting in limited available data.

CONCLUSION

Ascending testicles post-inguinal hernia repair represent a rare pediatric complication, with documented incidence and potential etiologies. Despite limited understanding, studies suggest iatrogenic factors or spermatic cord adhesions as contributing factors. Diagnostic tools, including ultrasound and MRI, aid in early detection, crucial for timely intervention. Surgical correction through orchiopexy, guided by laparoscopic assessment, remains a primary management strategy. Notably, while laparoscopy reduces scarring, it does not significantly alter ascending testicle incidence compared to open repair. Collaboration between urologists and experienced surgeons is pivotal for effective management. The rarity of this complication in adults underscores the need for further research to broaden our understanding and improve clinical outcomes.

CONSENT

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

ETHICAL CLEARANCE

This case report is exempt from ethical approval in our country.

Conflict of interest declaration

The authors declare that they have no conflict of interests.

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List of abbreviations

AT Ascending Testicle
CT Computerized Tomography

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