SRYAHWA PUBLICATIONS

Archives of Urology
ISSN: 2638-5228 | Volume 8, Issue 2, 2026
https://doi.org/10.22259/2638-5228.0802003

RESEARCH ARTICLE

Testicular Ectopias in Children at Charles De Gaulle Pediatric University Hospital of Ouagadougou: Diagnostic and Therapeutic Challenges

S Yélé Pierre KAMBOU[1], Diataga Sylvestre YONLI[2], Belibi NEYA[3], Oumar Said GANAME[4], Isso OUEDRAOGO[5]

[1]Staff Physician in Pediatric Surgery, Regional Hospital Center of Ziniaré (Burkina Faso).
[2]Staff Physician in urology Surgery, Regional Hospital Center of Ziniaré (Burkina Faso).
[3]Staff Physician in Pediatric Surgery, Regional University Hospital Center of Ouahigouya (Burkina Faso).
[4]University Hospital Assistant in Pediatric Surgery, Souro Sanou University Hospital Center (Bobo Dioulasso) (Burkina Faso).
[5]Full Professor of Pediatric Surgery, Charles De Gaulle Pediatric University Hospital Center of Ouagadougou (Burkina Faso).

Received: 03 August 2026 Accepted: 18 August 2026 Published: 24 August 2026

Corresponding Author: S Yélé Pierre KAMBOU, Staff Physician in Pediatric Surgery, Regional Hospital Center of Ziniaré, Burkina Faso.

Abstract

Introduction: Testicular ectopia is a common anomaly of male urogenital development, associated with a risk of infertility and malignant degeneration. In low incoming countries, diagnosis and management are often delayed, affecting functional outcomes.

Patients and Methods: It was a retrospective and descriptive study of 121 children who underwent surgery for testicular ectopia at Charles De Gaulle Pediatric University Hospital over a period of 11 years and 5 months. The variables collected included age at diagnosis and at surgery, the affected side, diagnostic methods, surgical techniques, as well as postoperative complications and outcomes. The data were analyzed using Epi info software, version 3.5.1

Results: The mean age at diagnosis was 5.64 years (range 1-14 years). Ectopia was present on the right side in 54.5%, on the left side in 19.4%, and was bilateral in 26.1%. The diagnosis was primarily clinical, with scrotal ultrasound contributing to the diagnosis in 28% of cases. All patients underwent surgery, which consisted of testicular lowering with dartos orchidopexy via an inguinal-scrotal approach in the majority of cases, and orchiectomy in 3 cases of atrophy. The mean follow-up was 19.62 months (1-136 months), with 4.9% of cases showing atrophy and 3.3% showing recurrence of testicular migration.

Conclusion: Testicular ectopia remains an underestimated pediatric problem in our context. Delayed diagnosis and limited access to laparoscopic techniques compromise outcomes. Adopting international guidelines, expanding the use of minimally invasive surgery, and raising awareness about early detection are essential for improving prognosis and preventing complications.

Keywords: Testicular Ectopia, Child, Diagnosis Delay, Treatment.

1. Introduction

Testicular ectopia is a common anomaly of male urogenital development, defined as the presence of a testis located outside its physiological pathway due to aberrant migration or abnormal insertion of the gubernaculum testis [1]. They are a common

Citation: S Yélé Pierre KAMBOU, Diataga Sylvestre YONLI, Belibi NEYA, *et al.* Testicular Ectopias in Children at Charles De Gaulle Pediatric University Hospital of Ouagadougou: Diagnostic and Therapeutic Challenges. Archives of Urology. 2026; 8(2):08-11.

reason for consultation in pediatric surgery and are associated with recognized long-term risks of infertility, testicular atrophy, and malignant tumor degeneration [1,2]. In low incoming countries, care is characterized by delays in diagnosis and treatment. These delays are associated with inadequate neonatal screening, a lack of information for parents, and difficulties in accessing specialized facilities. They compromise patients' functional and reproductive outcomes. The objective of this study was to describe epidemiological, diagnostic, and therapeutic aspects of testicular ectopia.

2. Patients and Methods

2.1 Type and Period of Study

It was a retrospective, descriptive study of 121 cases of testicular ectopia collected over a period of 11 years and 5 months in the pediatric surgery department at Charles De Gaulle Pediatric University Hospital

2.2 Inclusion Criteria

All children with clinically confirmed testicular ectopia who underwent surgery in the department during the study period were included.

2.3 Exclusion Criteria

No exclusion criteria were applied. Incomplete medical records were reviewed and supplemented as much as possible.

2.4 Variables Collected

The variables analyzed were:

- age at diagnosis and at the time of surgery;
- affected side;
- data from the clinical examination and paraclinical tests;
- surgical techniques performed;
- postoperative outcomes and complications;
- duration of follow-up.

2.5 Data Analysis

The data were analyzed using Epi info software, version 3.5.1

2.6 Ethical Considerations

Patient anonymity was preserved. The study was conducted according to current ethical guidelines.

3. Results

The mean age at diagnosis was 5.64 years, with a range of 1 to 14 years. Testicular ectopia was on the right side in 54.5% of cases, on the left side in 19.4%, and bilateral in 26.1%. The diagnosis was primarily clinical. A scrotal ultrasound was performed in 30 patients, allowing the testicle to be localized in 27 cases (28%) and yielding no visualization in 3 cases.

Management was exclusively surgical. The most commonly used technique was testicular descent combined with an in-dartos orchidopexy via an inguino-scrotal approach. An orchiectomy was performed in three children due to testicular atrophy.

The mean postoperative follow-up was 19.62 months (1 to 136 months). During this follow-up, testicular atrophy was observed in 4.9% of patients, and recurrent migration in 3.3% of cases.

Table 1. *Breakdown of patients by age at diagnosis*

Age at diagnosis (years)	Number of patients	Pourcentage (%)
0 – 1	12	9.9
2 -5	45	37,2
6 – 10	40	33.1
> 10	24	19.8
Total	121	100

4. Discussion

Ectopic testes are among the most common pediatric disorders of the male endocrine glands and the most common genital abnormality identified at birth [2].

4.1 Epidemiological Data and Diagnostic Delay

The prevalence is comparable to that described in several series [3]. The high mean age at diagnosis (5.6 years) reflects a significant delay in detection, whereas international guidelines recommend orchidopexy between 6 and 12 months of age, with a maximum delay of 18 months [4–7]. The consequences of this delay are well documented: progressive impairment of spermatogenesis, increased risk of testicular atrophy, and an increased risk of testicular cancer in adulthood [2-3].

In our context, this delay can be attributed to:

- parents' lack of knowledge about the condition;
- the absence of routine screening during the neonatal period;

- health care providers' limited awareness of current guidelines;
- difficulties in accessing specialized care.

4.2 Diagnosis and Imaging

The diagnosis of testicular ectopia is primarily clinical, as noted in recent guidelines [7-6]. In our series, ultrasound helped determine the position of the testis in the majority of cases, but remains unreliable when the testis is not palpable.

Current guidelines emphasize the limited effectiveness of ultrasound and MRI in locating intra-abdominal testicles [5,8].

In these situations, diagnostic laparoscopy is now the gold standard, allowing for both precise localization and an immediate therapeutic decision [8,9].

4.3 Surgical Techniques

The inguino-scrotal approach used in our series was adapted to the surgical facilities available at the time. The advent of laparoscopy has profoundly changed the modern management of testicular ectopia, providing direct visualization of the internal inguinal ring, the spermatic vessels, the vas deferens, and the exact position of the testis.

Several techniques are currently validated for the reduction of an intra-abdominal testis [9,11]:

- The one- or two-stage Fowler-Stephens's technique, which aims to promote neovascularization from the vas deferens and cremasteric vessels;
- The Shehata technique, developed in 2008, is based on gradual traction, which allows for vascular elongation and thus minimizes the risk of atrophy.

Some studies support the use of the more conservative Shehata technique, which is associated with a lower incidence of testicular atrophy [12].

4.4 Follow-up and Prognosis

International guidelines emphasize the importance of long-term follow-up through puberty to assess testicular growth and screen for secondary atrophy [2,12].

In our series, despite generally adequate follow-up, the duration remains insufficient to fully assess the course of the condition through adolescence. Increasing the frequency of follow-up visits is essential to improve the long-term prognosis.

5. Conclusion

Testicular ectopia in children remains a common and underestimated problem in our context. Often delayed diagnosis and limited access to laparoscopic techniques compromise the achievement of optimal functional and reproductive outcomes. Updating practices in line with international recommendations, providing training in minimally invasive surgery, and raising awareness about early detection are essential priorities for reducing complications and improving future fertility.

Funding

None

Conflicts of Interest

The authors declare no conflict of interest.

6. References

1. Divine EE, Cyril K, Boris A, Gima G, Oteh N, Ghislain D : Prevalence and Risk Factor of Cryptorchidism in Children between 0 - 5 Years in Two Hospitals in Kumba; Open J Urol. Oct 2025; 15 (10).doi : 10.4236/oju.2025.1510051
2. Zhilin Y, Shoulin L, Jianchun Y, Jiming B, Hongwu Z, Wanhua X. et al.: A prediction model for risk factors of testicular atrophy after orchiopexy in children with undescended testis. Transl Pediatr. Apr 2021;10(4):882-892. DOI: 10.21037/tp-20-473
3. Frantz GEN, Axel SNM, Willy EK, Landry OM, Armel QE, Pauline M, Dieudonné F Et al.: undescended testis in children: epidemiological, diagnostic and therapeutic aspects in three referral hospitals in douala, cameroon; PAMJ. Nov 2024; 08; 49(70):….
4. Jlidi S, Echaieb A, Ghorbel S, et al. L'ectopie testiculaire périnéale. Prog Urol. 2004 ;14 :532–533.
5. Anastasia M, Tommaso G, Mario L, Petros M: Laparoscopic versus open orchiopexy for palpable undescended testes: Systematic review and meta-analysis. J Pediatr Surg. April 2022; 57 (4): 770-775.
6. Thomas FK, Anthony Herndon CD, Linda AB, Laurence SB, Cheryl GB, Earl YC et al.: Evaluation and treatment of cryptorchidism: AUA Guideline; J of Urol. August 2014; 192 (2): 337-345.
7. Christian R, Hasan SD, Piet H, Radim K, Rien N, Raimund S et al.: Management of undescended testes: European Association of Urology/European Society for Paediatric Urology Guidelines. J Pediatr Urol. Dec 2016; 12 (6): 335-343.
8. Robert LG, Julia S, Karen AD, Meghan A, Shawn DSP, Elizabeth JR, et al. :Management of the undescended testis in children: An American Pediatric Surgical Association Outcomes and Evidence Based Practice Committee Systematic Review. J Pediatr

Surg. 2022 Jul; 57 (7): 1293-1308. Doi: 10.1016/j.jpedsurg.2022.01.003

9. El-Ekiabi O,Ali M, Alekrashy M, Kassem H, Sabry M, Ebrahim A, Elshahat W, El Safy A, Khalil O. A Comparison of staged laparoscopic traction orchiopexy (Shehata technique) and two-stage Fowler-Stephens orchiopexy in the management of intra-abdominal testicle: Prospective controlled clinical trial. Zagazig Univ Med J. 2025;31(7). Doi:10.21608/zumj.2024.277474.3258

10. Lin Z, Yu Z, Li H, Wu R, Zhang B. The Shehata technique for undescended testes that cannot be brought into the scrotum in one operation - a case series and meta-analysis. Front Pediatr. 2024; 12:1371028. Doi:10.3389/fped.2024.1371028

11. Zhang B, Lin Z, Yu Z, Wu R, Li H. Shehata technique versus Fowler-Stephens orchidopexy in intra-abdominal testis: a meta-analysis. J Pediatr Urol. 2024;20(5):977-984. doi: 10.1016/j.jpurol.2024.07.004

12. Valeska B-J, Nathalie B, Matthieu P, Elisabeth C, Pauline L, Arnaud B, Thomas B et al.: Staged laparoscopic orchiopexy of intra-abdominal testis: Spermatic vessels division versus traction? A multicentric comparative study; Journal of Pediatric in urology J Pediatr Urol. 2024; 20 :498. e1- 498. e8 ; https://doi.org/10.1016/j.jpurol.2024.01.017