



Research Paper

## Single-Stage Fowler–Stephens Laparoscopic Orchidopexy for Bilateral Undescended Testes in a 2-Year-Old Male

Dr. Prashant Kedari,<sup>1</sup> Dr. Milind Joshi,<sup>1</sup> Mitesh Mohan Hood<sup>2</sup>

<sup>1</sup>Consultant, Pristyn Care, Pune, Maharashtra, India

<sup>2</sup>AGM - Medical Excellence, Pristyn Care, Gurgaon, Haryana, India

### Abstract:

**Background:** Bilateral undescended testes (cryptorchidism) is a condition where both testicles fail to descend into the scrotum. Traditionally, a two-stage surgical approach is used for treatment.

**Case Presentation:** We report a case of a 2-year-old male child with bilateral undescended testes. Deviating from the standard approach, a single-stage laparoscopic Fowler–Stephens orchidopexy was successfully performed.

**Intervention:** Laparoscopic techniques were utilized to locate, mobilize, and position both testes within the scrotum. The patient recovered well and was discharged home after 48 hours with no complications.

**Conclusion:** Single-stage Fowler–Stephens laparoscopic orchidopexy may be a viable alternative to the traditional two-stage approach for bilateral undescended testes. Further research is warranted to compare long-term outcomes in a larger patient population.

Received 01 June, 2024; Revised 08 June, 2024; Accepted 10 June, 2024 © The author(s) 2024.

Published with open access at [www.questjournals.org](http://www.questjournals.org)

### I. Introduction:

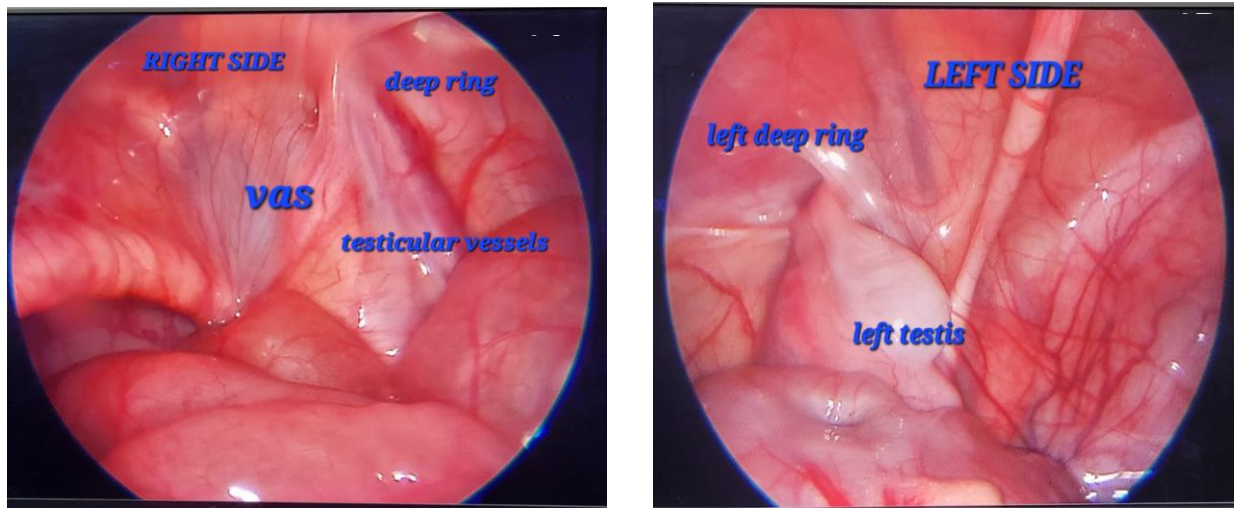
Undescended testes, also known as cryptorchidism, is a condition where one or both testicles fail to descend into the scrotum before birth. About 3% of full-term male infants and 30% of premature male infants are born with undescended testicles, requiring a thorough understanding among healthcare professionals. Bilateral undescended testes occur in approximately 10% of cases.<sup>1</sup> Traditionally, a two-stage Fowler–Stephens orchidopexy surgical approach has been the standard for treating bilateral undescended testes.<sup>2</sup> This case study presents a successful single-stage Fowler–Stephens laparoscopic orchidopexy<sup>3</sup> for a 2-year-old male child.

### Case Presentation:

A 2-year-old male child presented with bilateral undescended testes. Examination revealed the left testis to be intra-abdominal and the right testis located in the inguinal canal. The parents were informed about the usual two-stage Fowler–Stephens laparoscopic surgical approach for this condition.

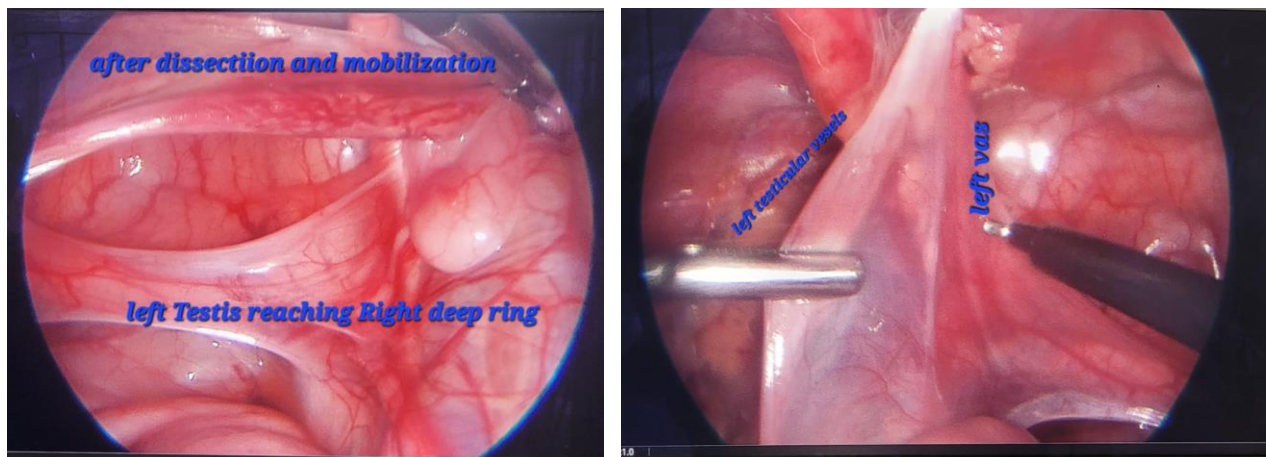
### Surgical Intervention:

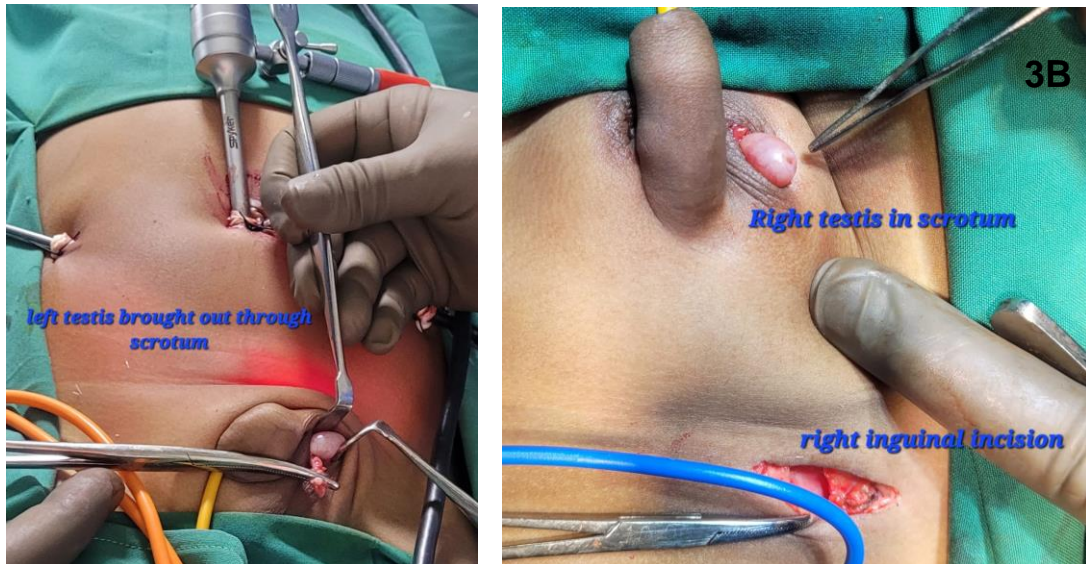
We deviated from the traditional approach and opted for a single-stage Fowler–Stephens laparoscopic orchidopexy. This minimally invasive procedure involved utilizing laparoscopic techniques to locate, mobilize, and ultimately position both testes within the scrotum. Several small incisions were made in the abdomen, and a laparoscope was inserted allowing us to view the abdominal cavity and locate both undescended testicles on a magnified screen. Using specialized laparoscopic tools, we carefully dissected tissues tethering the testicles in their abnormal position. This delicate process involved identifying and preserving the blood vessels, nerves, and vas deferens supplying each testis.



**Fig 1A and 1B:** Laparoscopic view of Right and left deep ring and testis

Further we meticulously created a pathway for each testis to travel down into the scrotum. This often involved dissecting muscles and other tissues in the lower abdomen and groin. Once in the scrotum, each testis was positioned in its natural anatomical location. Special stitches or anchoring devices were used to secure the testicles in place and prevent them from re-ascending. The laparoscopic instruments were then removed, and the small incisions were closed with sutures. The entire surgery was successfully performed using minimally invasive techniques, minimizing scarring and discomfort for the patient.





**Fig 3A and 3B:** Creating pathway for each testis to travel down into the scrotum

**Post-operative Course:**

The patient recovered well and was discharged home after 48 hours of observation. There were no reported complications.

**Discussion:**

Two-stage Fowler–Stephens laparoscopic orchidopexy has been the traditional approach for bilateral undescended testes.<sup>2</sup> This involves a first stage to locate and mobilize the testes, followed by a second stage several months later to position them in the scrotum.<sup>4</sup>

This case demonstrates the successful application of a single-stage Fowler–Stephens laparoscopic orchidopexy for bilateral undescended testes in a young child. This approach offers potential benefits such as superior cosmetic results, higher success rate, reduced overall surgical burden, shorter hospital stay, and potentially faster recovery for the patient.<sup>5</sup>



**II. Conclusion:**

This case study highlights the feasibility and successful outcome of single-stage Fowler–Stephens laparoscopic orchidopexy for bilateral undescended testes in a 2-year-old male child. This approach represents a possible advancement in the management of this condition offering potential advantages for both patients and the healthcare system.

While this case demonstrates a successful outcome, further research may be warranted to compare the long-term effectiveness and complication rates of single-stage versus two-stage Fowler–Stephens laparoscopic orchidopexy for bilateral undescended testes in a larger patient population.

**References:**

- [1]. Leslie SW, Sajjad H, Villanueva CA. Cryptorchidism. In: StatPearls. Treasure Island (FL): StatPearls Publishing; May 5, 2024.
- [2]. Niedzielski J, Balinska K, Wilk D, Slowikowska-Hilczner J. The effect of the two-stage laparoscopic Fowler-Stevens operation on testicular growth and risk of atrophy in boys with intra-abdominal testes. Arch Med Sci. 2019;18(3):666-671. Published 2019 Jul 11. doi:10.5114/aoms.2019.86596.
- [3]. Jawdat JR, Kocherov S, Chertin B. One-Stage Laparoscopic Orchiopexy for the Treatment of Intraabdominal Testis. Isr Med Assoc J. 2016;18(11):669-672.

- [4]. Robertson SA, Munro FD, Mackinlay GA. Two-stage Fowler-Stephens orchidopexy preserving the gubernacular vessels and a purely laparoscopic second stage. *J Laparoendosc Adv Surg Tech A.* 2007;17(1):101-107. doi:10.1089/lap.2006.0565
- [5]. Kaye JD, Palmer LS. Single setting bilateral laparoscopic orchiopexy for bilateral intra-abdominal testicles. *J Urol.* 2008;180(4 Suppl):1795-1799. doi:10.1016/j.juro.2008.03.108