

## LAPAROSCOPIC DIAGNOSIS AND CLINICAL MANAGEMENT OF A SOLITARY NONPALPABLE CRYPTORCHID TESTICLE IN A POSTPUBERTAL MALE

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The incidence of cryptorchidism is 0.8% at age 1 year with nonpalpable testes in 13% to 34% of patients.<sup>1</sup> About half of these nonpalpable testes are intra-abdominal and half are absent.<sup>1,2</sup> Management of nonpalpable testes requires accurate testicular identification and localization to determine the best surgical approach. Diagnostic techniques to localize a nonpalpable testicle, such as ultrasound, magnetic resonance imaging, computerized tomography (CT) and venography, are limited by the inability to identify the testis, inability to diagnose absent testes reliably, radiation exposure and lack of application in smaller children.

### CASE REPORT

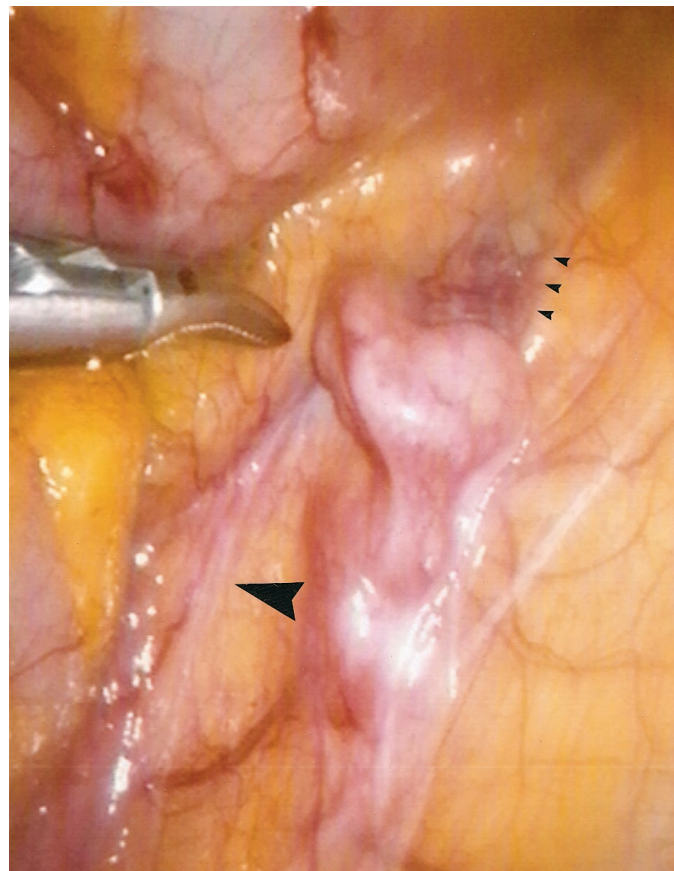
A 16-year-old boy was referred for anorchia. As a newborn he had nonpalpable gonads. Electrolytes were normal, karyotype was 46XY and he was assigned male gender. At age 2 years he underwent bilateral inguinal and retroperitoneal exploration with right orchiectomy. The left testicle was not identified. At age 13 years axillary and pubic hair developed with penile enlargement and nocturnal erections. Repeat CT and ultrasound suggested left pelvic testis but repeat inguinal and retroperitoneal exploration was uninformative.

Physical examination at presentation revealed a virilized, healthy, Tanner IV patient. Abdominal CT did not show a testicle. However, peripheral serum testosterone was 224 ng/dl. (normal 100 to 800) and left gonadal vein testosterone was 412 ng/dl.

Because the patient had a solitary testis, laparoscopy and transabdominal orchiopexy were recommended. At laparoscopy a small testis was easily identified lateral to the descending colon at the lower pole of the left kidney (see figure). A laparoscopic single stage Fowler-Stephens orchiopexy was performed. The testicle was brought through the abdominal wall medial to the external inguinal ring and placed into a subdartos pouch to allow periodic examination. The patient was discharged from the hospital on postoperative day 1 and returned to his home country. Serum testosterone was 238 ng/dl. at 76-day followup. The patient remained clinically virilized 1 year after orchiopexy.

### DISCUSSION

We report the management of a solitary intra-abdominal testis in a postpubertal boy. Laparoscopy, following 2 previous negative inguinal and retroperitoneal explorations, successfully identified the abdominal testis. Its location superior to the external iliac vessels correctly predicted the need to transect testicular vessels to mobilize the testicle into the scrotum.<sup>3</sup> Laparoscopic orchiectomy would have been the procedure of choice in our patient if there had been a con-



Intraoperative appearance of left testis (to right of dissecting forceps). Descending colon is reflected medially (to left of and above forceps). Testicle was at level of lower pole of left kidney. Left testicular artery and vein (small arrowheads) extend superior to testis. Vas deferens, with its blood supply (large arrowhead), extends inferiorly and medially.

tralateral scrotal testis. However, to prevent anorchia and to reposition the testis to allow for surveillance examination, laparoscopic orchiopexy was performed. The patient requested a single stage procedure because of the limited availability of medical care.

Laparoscopy is becoming the procedure of choice for children with nonpalpable cryptorchid testes. It allows diagnosis of intra-abdominal testes or atretic vas deferens and spermatic vessels associated with vanishing or inguinal testes.<sup>2</sup> Open surgical exploration is avoided in the 10% to 17% of patients with absent testes diagnosed by blind-ending sper-

matic vessels and vas deferens.<sup>2</sup> Alternatively, the presence of normal vessels and vas entering the inguinal ring implies an inguinal testis.

As in our case laparoscopy is helpful in identifying intra-abdominal testes missed on prior inadequate inguinal or retroperitoneal exploration. Laparoscopy affords magnification with greater visualization of spermatic blood vessels, preservation of a wide peritoneal vascular pedicle and ability to mobilize gonadal vessels to their origin. In older patients laparoscopy offers significantly decreased morbidity and improved recovery.

## REFERENCES

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