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RESEARCH ARTICLE

Bilateral Cryptorchidism with Bilateral Synchronous Testicular Germ Cell Tumour.

M. Mohan Rao,[1]* Syed Nusrath Farees,[1] Omar Bin Hasan, [1]

Department of General surgery, Deccan College of Medical Sciences, Kanchanbagh, Hyderabad-500058 INDIA.

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Corresponding Author

M. Mohan Rao

Abstract

Cryptorchidism, or undescended testis (UDT), is defined as failure of a testis to descend into a scrotal position. We present a case report of 37 year old male with bilateral undescended testis and azoospermia who gave history of surgery at the age of 2 years for repositioning of both the testis into scrotum with failure of the procedure within 1 year of surgery. Clinical examination and imageology revealed both the testis in inguinal region with features of atrophy. Bilateral inguinal orchidectomy was done and histopathology revealed seminoma in both the testis .Postoperative Biomarkers and PET-Scan showed no evidence of metastases.

INTRODUCTION

Cryptorchidism, or undescended testis (UDT), is defined as failure of a testis to descend into a scrotal position. It is a known cause of testicular tumor with an incidence of 30 to 50 times higher than general population. Seminoma is the most common tumor in cryptorchidism. We report a case of 37-year-old male with bilateral inguinal cryptorchidism with associated testicular germ cell tumor.

Case Presentation

A 37 year old gentleman presented with history of infertility and empty scrotal sac on both the sides. He had a history of surgery for bilateral undescended testis at the age of 2 years but within a period of 6 months testicles got retracted into the groin region. On evaluation he had Azoospermia and firm palpable testis at both the superficial inguinal rings.

An MRI of his Inguinoscrotal region revealed oval to mild irregular hyperintense areas in bilateral medial inguinal region (24x17 on right side, 30x24 on left side) associated with mild thickening and patchy intensities involving bilateral spermatic cords (**Figure 1**).

Serum tumor markers revealed a beta-human chorionic gonadotropin (hCG) of 0.20mIU/mL (Normal is <5mIU/mL), lactose dehydrogenase (LDH) of 210 U/L (100 to 190U/L) and an alpha-fetoprotein (AFP) of 4.07ng/mL (0.0 to 9.0ng/mL).

On gross pathological examination left sided specimen showed solid, homogenous, greyish white, lobulated tumor measuring 7x4x1cm and right specimen measuring 5.5x 4x1cm with cut section showing dark brown and greyish white areas with yellowish nodule of 1x0.8 cm. No gross involvement of tunica albuginea or spermatic cord was noted.

Histopathology showed sheets and large trabaculae of polygonal cells in an abundant lymphocyte rich fibrous stroma. Nuclei of tumor cells are large vesicular with prominent nucleoli and abundant clear to vacuolated cytoplasm. Left testis was completely replaced with seminoma and right testis showed foci of seminoma (**Figure 2**).

Discussion

Cryptorchidism is one of the most common pediatric disorders of the male endocrine glands and the most common genital disorder identified at birth. The most common sites of cryptorchidism are high scrotal (50%), canalicular (20%) and abdominal (10%), bilateral (10%) (Cortes et al., 2001). The incidence of testicular cancer in cryptorchidism is 30 to 50 times higher than general population. The higher the testis is located (abdominal vs inguinal canal), the greater the risk of malignancy (Virtanen et al., 2008).

Seminoma is the most common tumor in cryptorchidism. In general approximately 95% of malignant testicular tumors are germ cell tumors, of which seminoma is the most common histological subtype. The risk is greatest in cases of bilateral cryptorchidism like our case (Chacko et al., 2009; Barthold et al., 2003; Rusnack et al., 2003; Rusnack et al., 2002; Marchetti F et al., 2012).Compared to the non-seminomatous germ cell tumors, seminoma occurs in an older patient population, with a mean age of approximately 40 years (Wood et al., 2009). These tumors carry a favourable prognosis due to their sensitivity to radiation and chemotherapy (Rusnack et al., 2002; Marchetti F et al., 2012; Wood et al., 2009; Skakkebaek et al., 2003). Approximately 75% of patients with seminoma present with disease limited to the testis, 20% have retroperitoneal adenopathy, and 5% have extra-nodal metastasis.In our case disease was limited to testis with no evidence of regional or distant metastasis even on evaluating with PET- Scan (Hadziselimovic 2008; Myers et al., 1975).

The main reasons for treatment of cryptorchidism include reducing the risks of impairment of fertility potential, testicular malignancy, torsion and/or associated inguinal hernia. Cryptorchidism has evolved significantly over the past half century, with respect to both diagnosis and treatment (Marchetti F et al., 2012; Myers et al., 1975). The current standard of therapy is orchidopexy, or surgical repositioning of the testis within the scrotal sac, while hormonal therapy has fewer advocates. Successful scrotal relocation of the testis, however, may reduce but does not prevent all of these potential long-term sequelae in susceptible individuals (Marchetti F et al., 2012).

Conclusion

The most common sites of cryptorchidism is high scrotal, and the higher the testis is located, the greater the risk of malignancy. The risk is greatest in cases of bilateral cryptorchidism. Seminoma is the most common tumor in cryptorchidism. Check the retroperitoneal lymph node (especially at the level of renal hilum) in all cases of cryptorchidism complicated by malignancy.

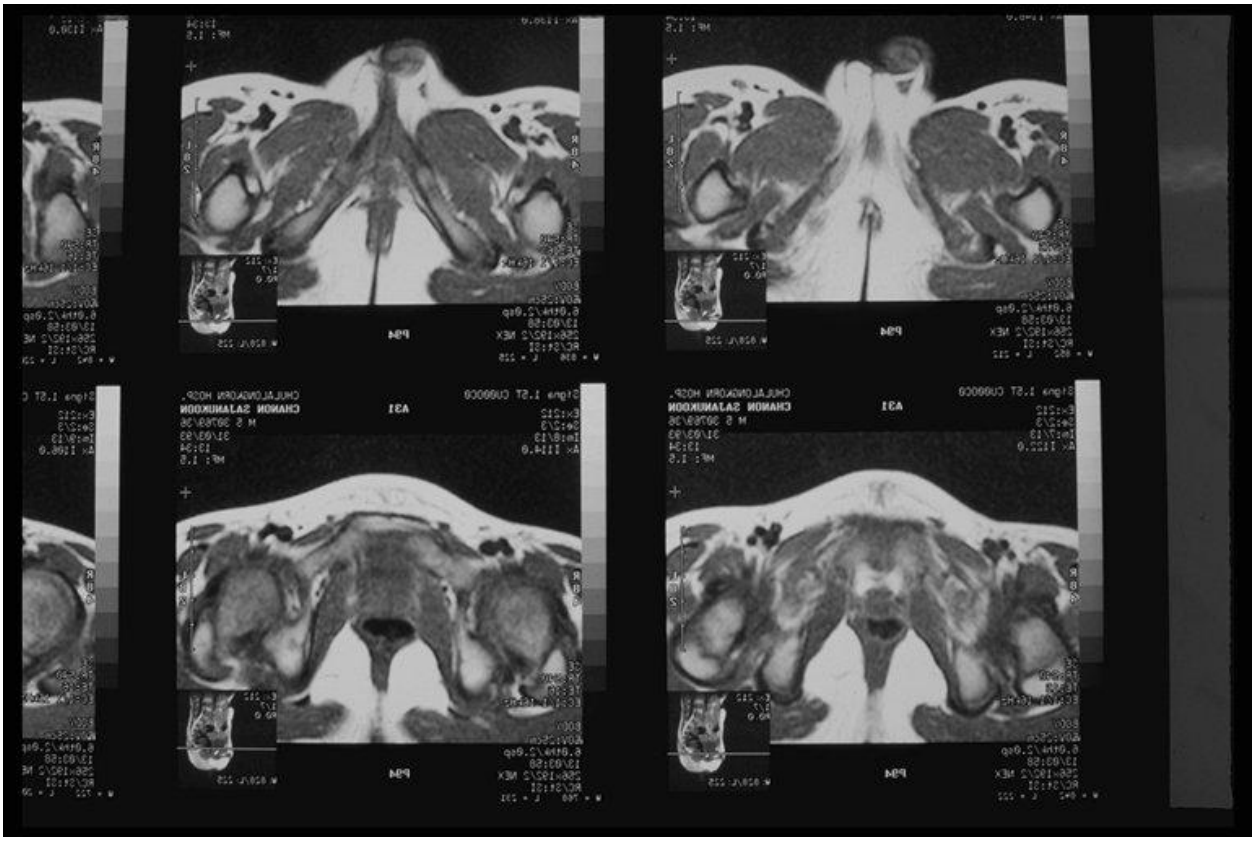

Figure 1: MRI image showing undescended testis

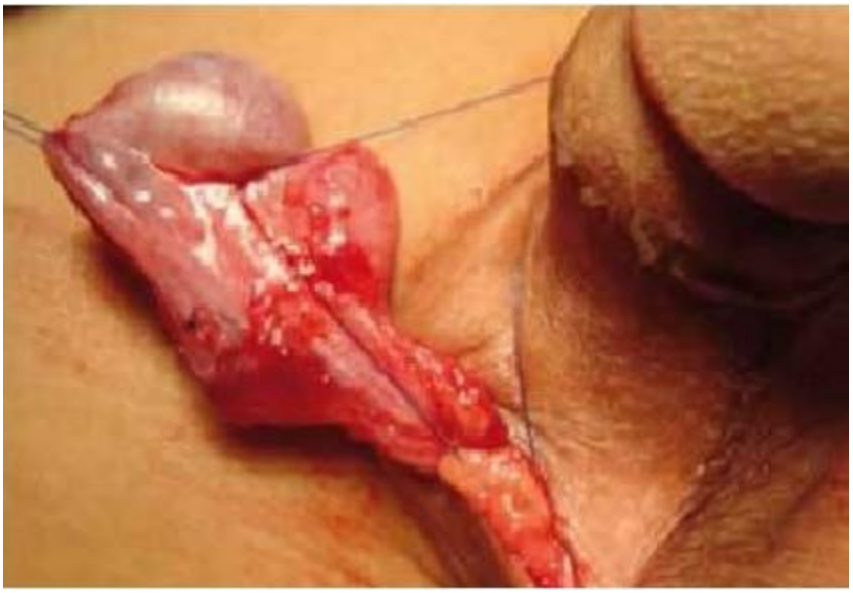

Figure 2: Right Orchidectomy specimen

Acknowledgement

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Conflict of Interest

None

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