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Clinical Vignette

Testicular Sparing Surgery for a rare case of "Multiple Bilateral Testicular Dermoid Cysts" in a 7-year-old boy

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CASE PRESENTATION

A 7-year-old boy weighing 17 kg presented with bilateral scrotal swellings noted by his mother 2 weeks ago. The patient was otherwise medically free. On clinical examination, both testes were enlarged. The swelling was confined to the scrotum, firm in consistency, and non-tender. The transillumination test was negative. Systemic examinations were unremarkable. The routine blood investigations and tumor markers (Alpha-fetoprotein, Beta-HCG) were within normal limits. Ultrasound revealed a complex multicystic mass involving the left hemi-scrotum with minimal solid component. No normal left testicular parenchyma was seen. Right scrotum showing visualization of right testis measuring 14*10*18 mm and within it were two well-defined lesions of 8mm and 5mm in the testis. They had altered parenchyma and calcified rim reflecting progressive mass lesion. Both inguinal regions were normal. Abdominal viscera were normal, and no pelvic pathology was seen. On the computed tomography scan of abdomen, no lymphadenopathy or evidence of metastasis was found. At surgery, both the testes were delivered in the inguinal wound, and incisions were given on the tunica albuginea. The swellings looked like dermoid cysts. They were scooped out salvaging the healthy testicular tissue. In the right testis three lesions were removed and in the left testis one lesion was removed (Fig. 1). According to the histopathology report, cyst walls were lined by benign keratinized stratified squamous epithelium. The walls were composed of fibrocollagenous tissue, fibrofatty tissue, benign vascular channels, benign skin appendages and benign intestinal epithelium. The lumen contained keratin. No granulomas were seen and there was no evidence of malignancy. Features were consistent with germ cell tumour/ dermoid cysts. The patient has no recurrence and is on regular follow-up.

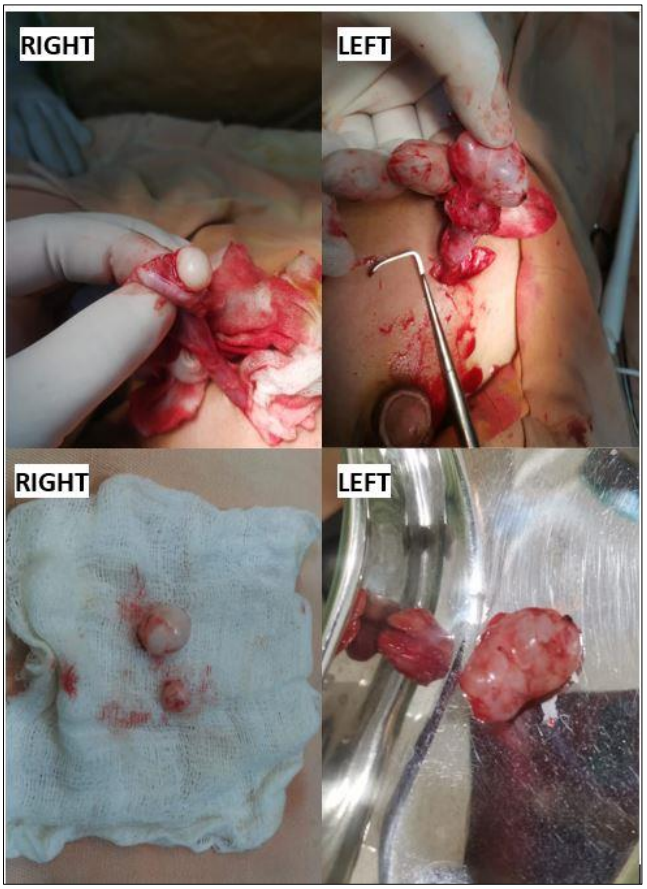

Figure 1: Right testis contained 3 small cysts and Left testis contained 1 cyst.

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DISCUSSION

About 45-50% of childhood testicular tumors are teratomas. Dermoid cysts are a rare type of cystic teratomas with an unknown incidence. Dermoid cysts are benign in children but mature teratomas can be cancerous in adults. (1, 2)

Patients with dermoid cysts usually present with a testicular lump. Diagnosis is made using a combination of ultrasonography, tumor markers and histopathological analysis. On ultrasound, a dermoid cyst characteristically is a well-circumscribed intratesticular mass with cystic and solid components and not highly vascular. In comparison, malignant testicular tumors tend to be solid with irregular borders and increased blood supply. Tumor markers like Alpha-fetoprotein and Beta-HCG help differentiate between benign and malignant lesions. In our case, the tumor markers were within normal range. Histopathologically, a dermoid cyst is diagnosed as an intraparenchymal lesion with squamous epithelium, fibrous wall, and keratin debris. It contains skin, its appendages (hair follicles, sebaceous glands), and sometimes other tissues including cartilage, glandular or adipose tissue. Patients with a long history of dermoid cyst should be assessed for secondary malignant change in retroperitoneum, lungs, CNS and bone. (1–3)

Dermoid cysts are benign which makes "testicular sparing surgery" (TSS) an effective alternative to the traditionally performed organ-compromising radical orchiectomy. Studies have reported evidence of reconstitution of testis post-surgically even with sparse healthy testicular parenchyma. This technique is beneficial for prepubertal males as it saves gonadal function, prevents hormonal imbalance, and preserves fertility. Inguinal approach is preferred with "good vascular and lymphatic control". We opted for this approach too. Intraoperative frozen sections are taken and TSS can be converted to radical orchiectomy if a cancerous lesion is found. There have been no reported recurrences following TSS for benign cases and patients show favorable results on follow up without atrophy or orchialgia. (1–5)

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