

Journal of Minimal Access Surgery

Vol 12 / Issue 2 / April-June 2016

JMAS

www.journalofmas.com



Official Publication of
The Indian Association of Gastrointestinal Endo Surgeons

Testicular tumour in non-palpable undescended testis: A rare presentation and laparoscopic management in a 4-year-old

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Abstract

Testicular tumour in an intra-abdominal undescended testis is a rare finding. We report a case of mature teratoma in an intra-abdominal testis of a 4-year-old boy. He presented with nonpalpable testis on the right side. Abdominal ultrasound was normal. Diagnostic laparoscopy revealed a large tumour arising from an intra-abdominal right testis, and histologic analysis identified a mature teratoma. The tumour was completely removed laparoscopically, and there was no recurrence at follow-up 1 year later.

Key words: Intra abdominal, undescended testis, mature teratoma

INTRODUCTION

Undescended testis in children is a common problem. Non-palpable testis constitutes about 20% of all undescended testis. Intra-abdominal testes have a high risk of malignancy if left untreated. Pre-pubertal testicular tumours are rare, accounting for 1-2% of all paediatric tumours with incidence of 0.5-2.0 per 100,000 children.^[1] The testicular tumours show a bimodal age distribution, with a large peak in young

adults and a much smaller but distinct peak in the first 3 years of life.^[2] They differ greatly from adult testicular tumours. While seminoma is most common in adults, teratoma is more common in the paediatric age group. The majority of patients present with a testicular mass, which is typically hard and painless. We present a case where testicular teratoma presented as an undescended testis, with no palpable abdominal mass and was diagnosed and removed laparoscopically. Though similar cases are mentioned in the literature with reports of antenatal foetus and infants having tumour, most of them have been dealt by open surgery. We report our case being managed laparoscopically, which has not been mentioned in the literature.

CASE REPORT

A 4-year-old boy presented with a non-palpable undescended testis on the right side. He underwent routine blood and radiological investigations for a diagnostic laparoscopy and the possibility of orchidopexy or orchidectomy, depending on the laparoscopic finding. Routine blood investigation and ultrasound of his abdomen were normal. Ultrasound of his scrotum revealed non-visualization of the right testis. He was taken up for a diagnostic laparoscopy that was then carried out. On diagnostic laparoscopy, the vas and vessels on the right side were seen ending in a well-encapsulated, enlarged mass [Figure 1]. It was assumed that the undescended testis had transformed into a tumour, and a decision to do a right orchidectomy and remove the right testicular tumour was made. Removal of the right testicular tumour was done laparoscopically after bipolar cautery to the vas and vessels. Adequate precaution was taken not to spill the tumour and to keep the capsule of the tumour intact [Figure 2]. After resection of the tumour, it was put

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Quick Response Code:	Website: www.journalofmas.com
	DOI: 10.4103/0972-9941.178520

into a plastic bag and retrieved from the umbilical port site by slightly extending the incision [Figure 3]. The specimen was sent for histopathology. The boy was started on liquids after 4 h and discharged the next morning. Histopathology was reported as mature teratoma of the testis. On 1-year

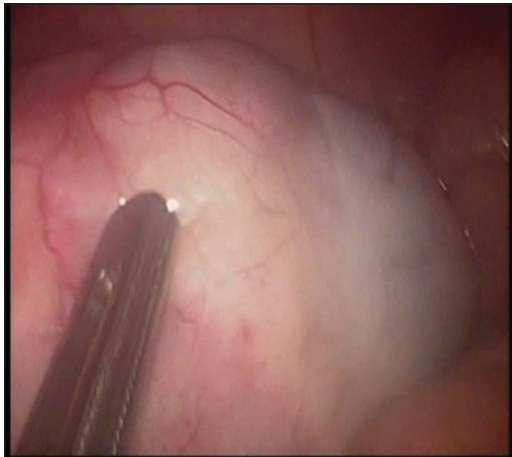


Figure 1: Laparoscopic finding of a tumour at the site of undescended testis

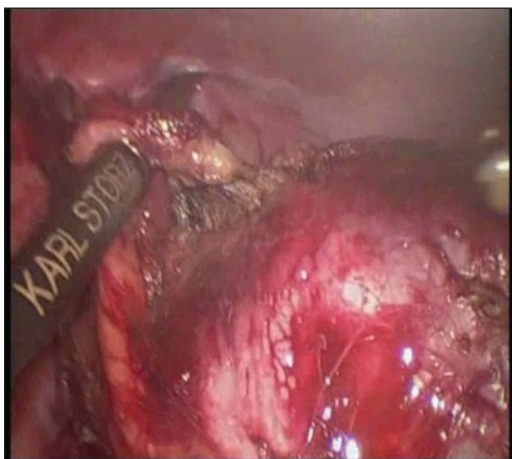


Figure 2: Laparoscopic dissection of the tumour without spillage

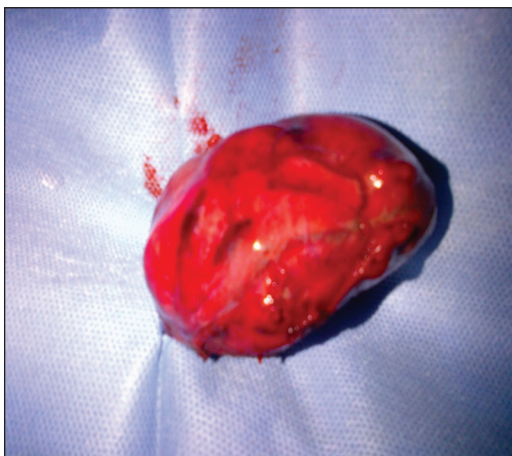


Figure 3: Tumour specimen removed from the umbilical port site

follow-up, there was no recurrence of the tumour at the site on follow-up ultrasonography.

DISCUSSION

Teratoma is a neoplasm of germ cell origin that is composed of multiple cell types derived from one or more of the three germ layers. The reported incidence of testicular tumours in children is between 0.5 and 2 per 100,000 children.^[1] Reviews of single-centre or captive population studies have shown that compared to adults, benign tumours of the testis are more common in children and teratoma is the most common pathology.^[3,4]

Natural history of pre-pubertal testicular teratoma differs significantly from testicular teratoma in adults. Testicular teratomas are almost always benign in pre-pubertal children, and they rarely have associated intra-tubular germ cell neoplasia in the remainder of the normal testis compared with nearly 90% of adult cases.^[2] If teratoma is diagnosed and the child is near pubertal age, the surrounding parenchyma should be examined for intra-tubular germ cell neoplasia, the presence of which warrants radical orchidectomy; enucleation or partial orchidectomy for teratoma in pubertal boys is not recommended.^[5] If handled properly, laparoscopic excision should be an excellent alternative to conventional open surgery as it would prevent a laparotomy, reduce post-operative pain and the child can be discharged early.

Multiple case reports appear in the English literature about testicular tumour in the intra-abdominal testis. Various age groups have been implicated starting from antenatal scans to postnatal presentations, extending from neonates to the pre-pubertal age group.^[6] There are no large numbers from a single centre reported in the literature. Most of the literature speaks about the diagnosis and surgery by open laparotomy for such findings. We would recommend laparoscopic excision of all pre-pubertal tumours in children with careful handling of the tissue and retrieval from the abdomen to prevent spillage for faster recovery and better cosmesis as most of them will not recur and complete surgical excision is curative.

ACKNOWLEDGEMENT

We acknowledge the support given by the anaesthetist and oncologist in managing this case and thank them.

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Cite this article as: Agarwal P, Bagdi RK. Testicular tumour in non-palpable undescended testis: A rare presentation and laparoscopic management in a 4-year-old. *J Min Access Surg* 2016;12:167-9.

Date of submission: 25/04/2015, **Date of acceptance:** 12/05/2015

Source of Support: Nil, **Conflicts of Interest:** None declared.