

INFANTILE PURE YOLK SAC TUMOUR: A CASE REPORT

Nasir FM¹, Zaman A¹, Tan GC², Lim FSK³, Teo R³, Chai JN⁴, Osman M¹, Hamid SNA¹

¹ Paediatric Surgery Unit, Department of Surgery, Hospital Canselor Tuanku Muhriz, University Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia.

² Pathology Department, Hospital Canselor Tuanku Muhriz, University Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

³ Anaesthesiology Department Hospital Canselor Tuanku Muhriz, University Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

⁴ Radiology Department, Hospital Canselor Tuanku Muhriz, University Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

Introduction

Yolk sac tumour (YST) are malignant tumour of cells that lines the embryo that resembles yolk sac, allantois and extra-embryonic mesenchyme. Prognosis of testicular yolk sac tumours is dependent on early detection and treatment. We are reporting a case of infantile yolk sac tumour.

Case Summary

15-month-old boy presented to us with right scrotal swelling progressively increasing in size over 1 month. Examination revealed an enlarged right testis which was firm and non tender. We were able to get above the mass and there were dilated vessels over the scrotal skin with multiple palpable inguinal lymph nodes. His left testis and scrotum were normal.

His serum AFP was elevated (1836.52ng/dL) but serum BHCG was normal (<1.2 mIU/mL). Ultrasound of the testes was suspicious of testicular tumour and magnetic resonance imaging for staging showed the right testis was grossly enlarged, measuring 4.6 x 4.5 x 7.2 cm. The right spermatic cord was involved with multiple subcentimeter lymph nodes presence. There were no evidence of distant metastasis.

A high ligation right orchidectomy with excision of inguinal lymph nodes and circumcision was done. Intra operatively, the right testicular tumour measured 9cm x 4cm. Right vas deferens appear normal. The testicular vessels were engorged. There were enlarged right inguinal lymph nodes at horizontal and vertical chain. Postoperatively, patient recovered well, and discharged day 1 postoperatively. Histopathology reported confirmed a diagnosis of right testicular yolk sac tumour pT2. Tunica albuginea, spermatic cord and inguinal lymph nodes were free from tumour Serial post operative AFP showed reducing trend to 6.19ng/dL. Imaging thus far showed no evidence of recurrence.

Discussion

YST (also known as endodermal sinus tumours) are malignant primitive germ cell tumours. It can be found in pure form or mixed with other germ cell tumours such as teratoma and embryonal carcinoma^{1,2}. It may be found in ovary, testes and other parts of the body. The most common testicular tumour in young children under the age of 3 is yolk sac tumour, and it is also known as infantile embryonal carcinoma. Yolk sac tumours have a good prognosis in this age group³

Aetiology of yolk sac tumour are still unknown. Few literatures reported that RUNX3 gene hypermethylation and GATA-4 overexpression may be involved in the pathogenesis of yolk sac tumours.^{4,5} The common feature is areas with a primitive extra-embryonal morphology which is a diagnostic feature. Their identification facilitates the diagnosis of YST in cases where other complex morphological patterns predominate.

Children with testicular YST usually present with testicular masses, often mistaken as inguinal hernia or hydrocele. The mass is usually painless and solid. Metastasis is not common but it may spread through lymph nodes.⁶ Diagnosis of yolk sac tumours depends on history, physical examination, imaging studies and blood investigations. Radiological investigations such as ultrasonography, computer tomography and magnetic resonance imaging are useful tool to aid in the diagnosis and for staging of the disease.⁷

Conclusion

In our case, prompt diagnosis requires correlation between clinical findings, blood investigations and imaging. Early intervention with surgical intervention showed good prognosis as evident with the reduced levels of AFP. Multidisciplinary team approach is ideal to ensure patient receives optimal treatment and managed as a whole.

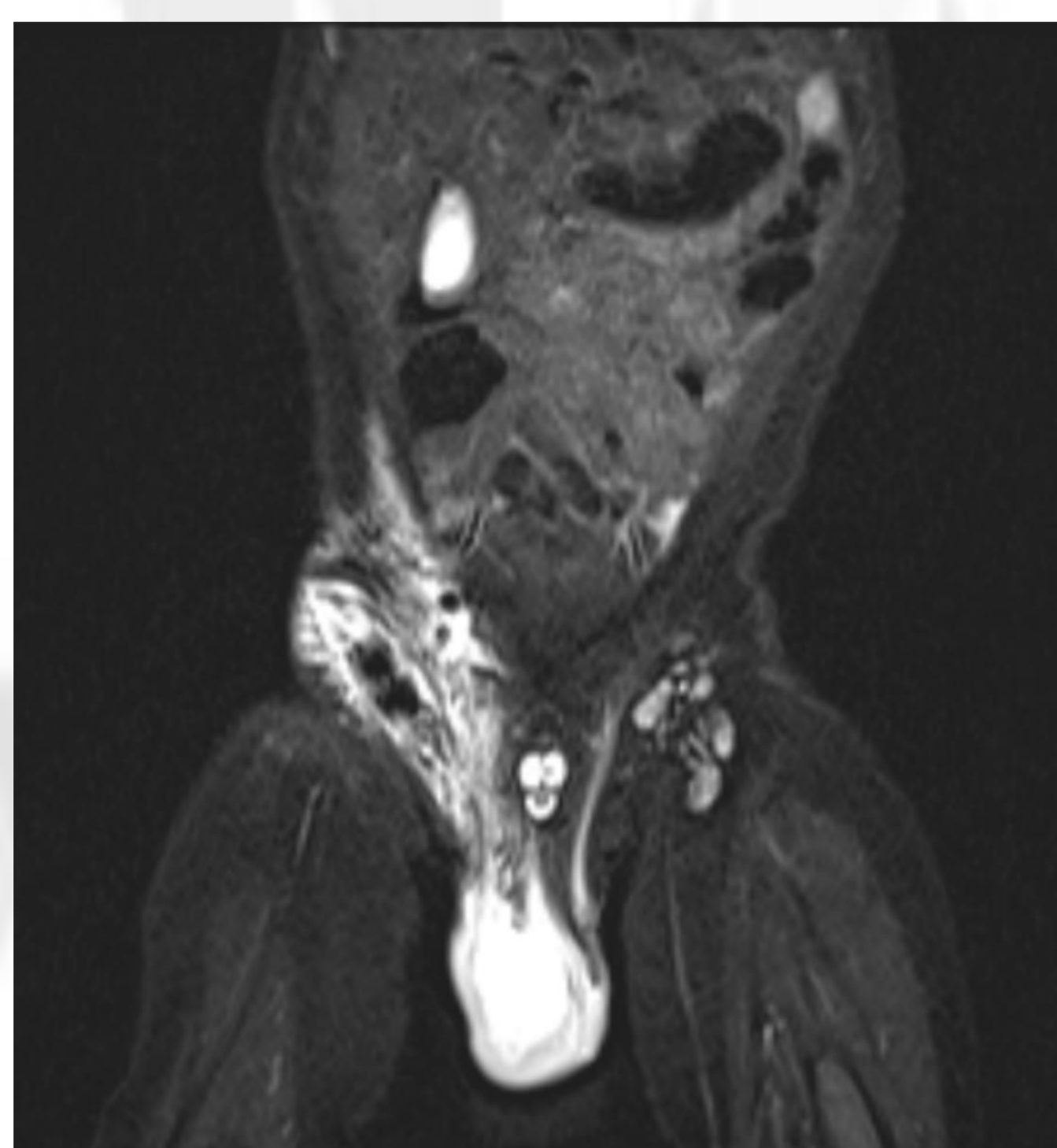


Figure 1: MRI showing the right testis is grossly enlarged.

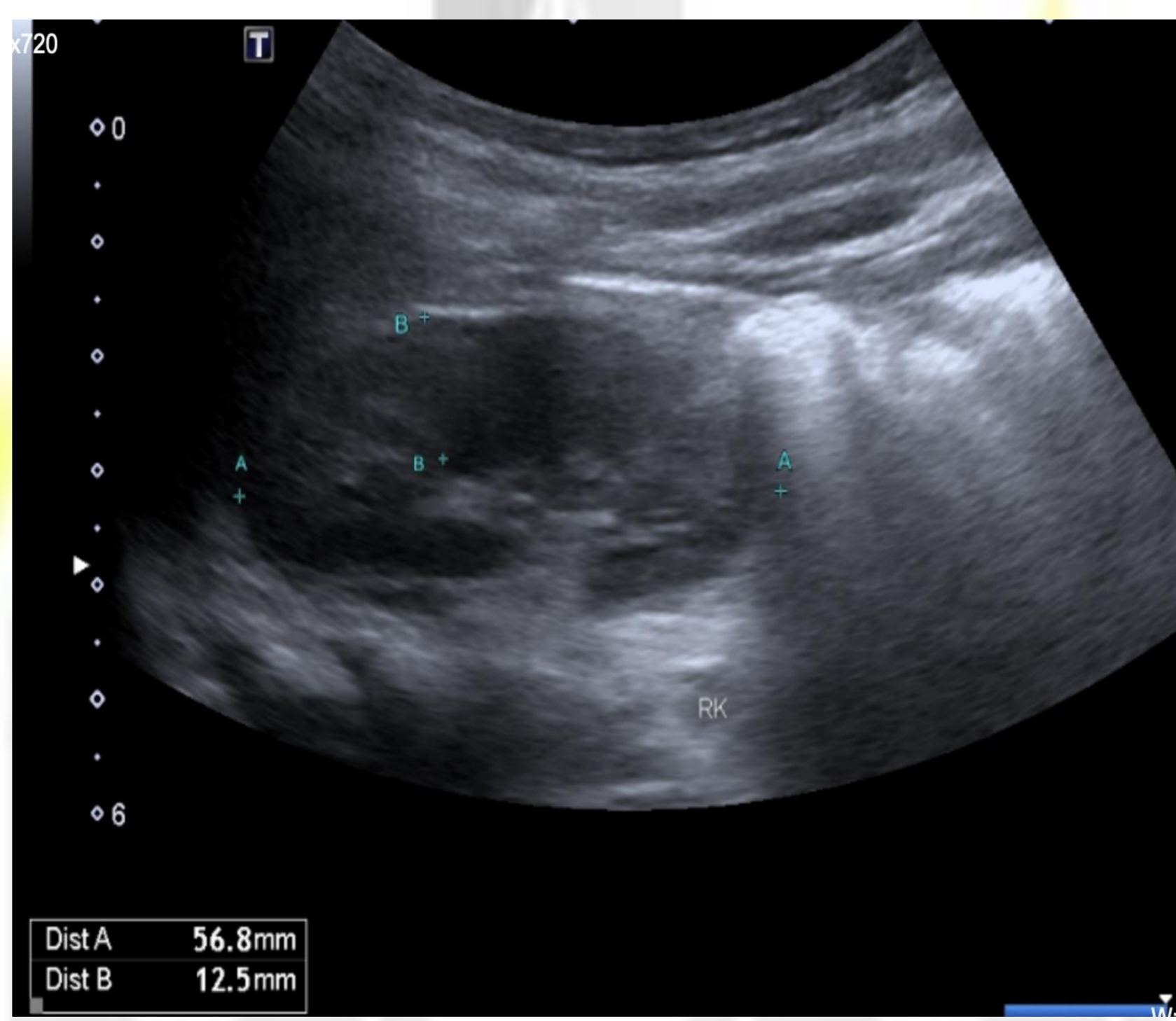


Figure 2: USG imaging of the suspicious right testis.

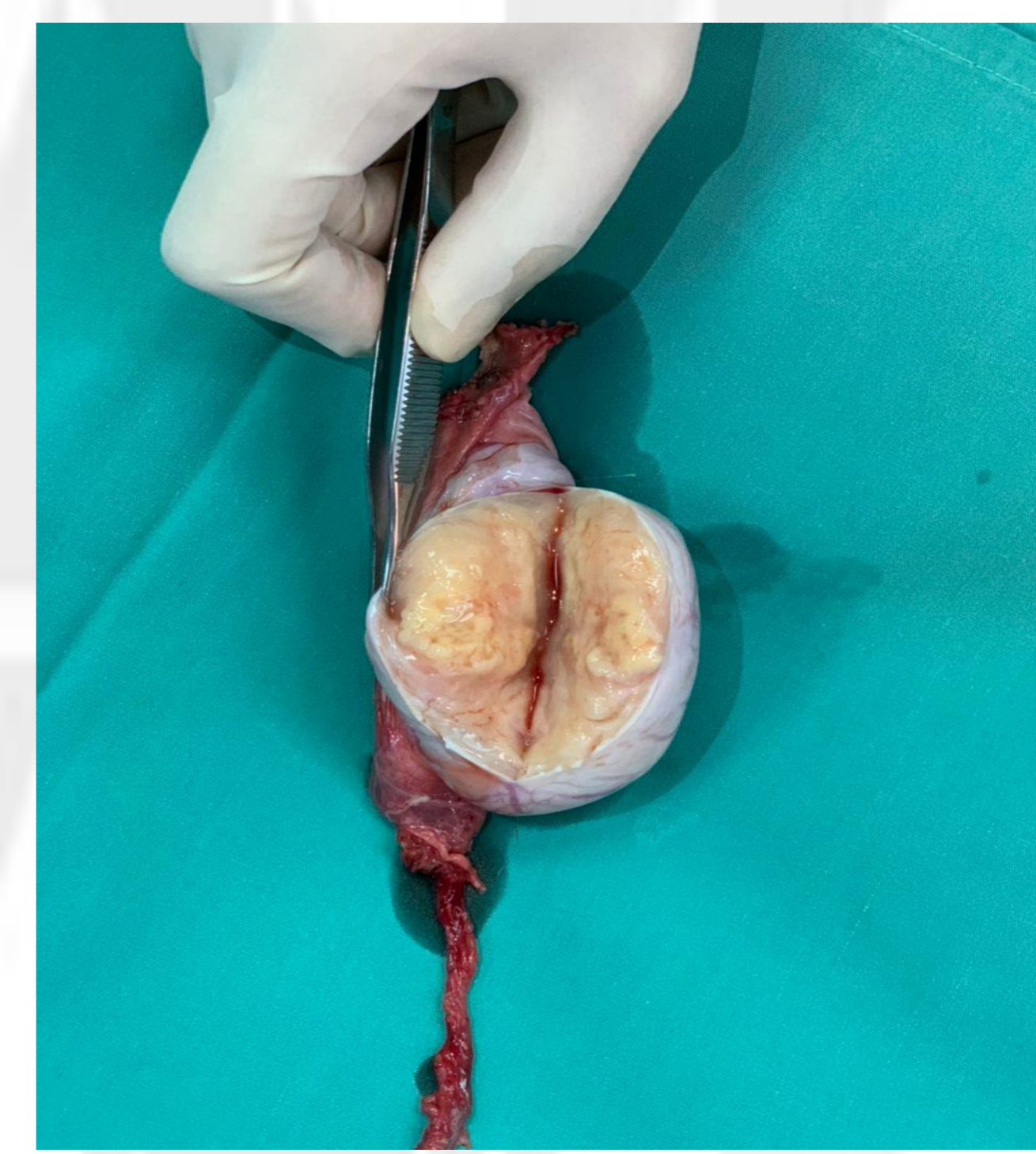


Figure 3: Gross examination of cross section of the right testis.

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