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A RARE CASE OF WILMS' TUMOR IN HORSESHOE KIDNEY

Paediatric Surgery

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ABSTRACT

Wilms' tumor is the most common malignant kidney tumor in children. Horseshoe kidney is the most common renal fusion anomaly. Horseshoe kidney occurs in 1 in 500 cases with male preponderance. But, Wilms'tumor is rarely seen in horseshoe kidney patients, but there is a two fold increased risk in them and the operative management is very important. 3D reconstruction film is very vital for operative planning and to get an idea of plane of dissection.

KEYWORDS

Wilms'Tumor, Horseshoe Kidney

INTRODUCTION:

- Most common renal fusion anomaly; fusion occurring in lower pole in 90 % cases.[1]
- Incidence is 1 in 400 , male preponderance.[2]
- Malposition of umbilical arteries is thought to be the cause of horseshoe kidney.
- Wilms' tumor is the second most common tumor found in horseshoe kidney.[3]
- Two fold increased risk of Wilms' tumor in horseshoe kidney cases.[4]

CASE DESCRIPTION

A 6 year female child presented in our OPD with lump in right side of abdomen for last 1 month . No other significant history.The lump was 5 cm * 6 cm in dimension,firm in consistency,smooth surface,irregular margins, non mobile,not moving with respiration,renal angle full,located in right hypochondrium and right lumber region.

- All routine blood reports were normal except haemoglobin was 9 gm%
- Ultrasonography showed a 7 cm * 7 cm mass in right renal fossa ,left kidney normal.
- HRCT thorax was normal.

CECT whole abdomen was done (Fig.1) : a solidocystic mass, measuring 7.1 * 6.8* 8.8 arising from lower pole of right part and isthmus of horseshoe kidney, causing grade 3 hydronephrosis in right kidney

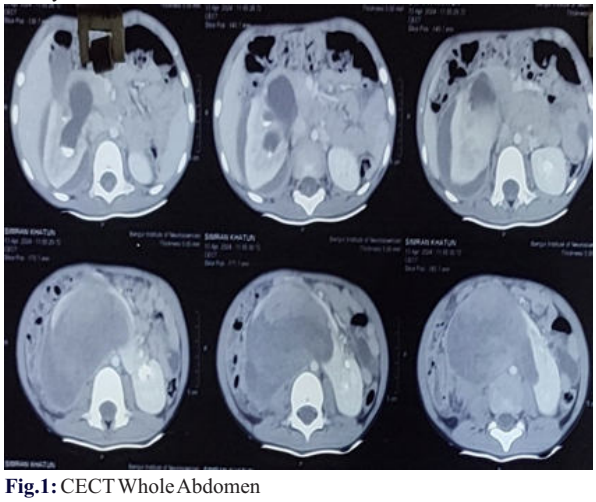

Fig.1: CECT Whole Abdomen

Management:

- NACT with 6 cycles of vincristine and actinomycin D was given.
- Reassessment with CECT whole abdomen and CT angiography was planned due to variable blood supply of horseshoe kidney.(Fig.2)

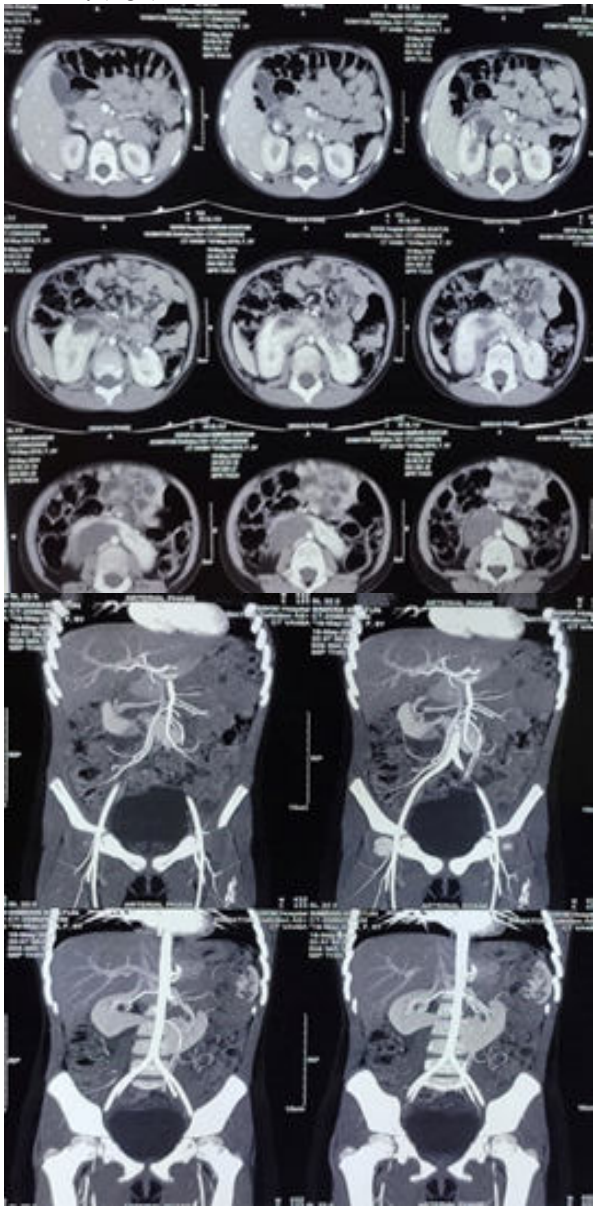

Fig.2: Neoplastic mass involving lower pole of right kidney and isthmus, measuring 5*4.5*2.8 cm and causing right hydronephrosis.

OPERATION:

- Right sub coastal incision via transperitoneal approach.
- Radical right nephroureterectomy with resection of isthmus.(Fig.3)
- Lymph node sampling done.

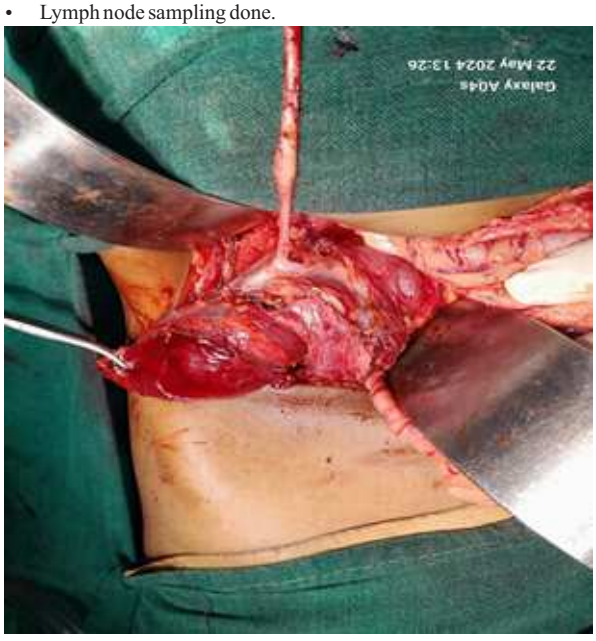

Fig.3: Intra operative Picture

Follow Up :

- HISTOPATHOLOGY : necrosis of tumor and tumor margin was free of cancer cells without lymph node metastasis.
- No further chemotherapy was advised.
- The child is under follow up with 3 monthly USG, 6 monthly CECT whole abdomen.
- At present, the child is having no evidence of recurrence or metastasis.

CASE DISCUSSION AND CONCLUSION

- Horseshoe kidney is a common congenital renal anomaly, but have an increased risk of developing Wilms' tumor.
- However, the prognosis is **favourable**.[5]
- Abnormal proliferation of **metanephric blastema** in the isthmus, hence isthmus must be excised.[6]
- **CT angiography** and **3D reconstruction** film are essential due to variable blood supply of horseshoe kidney and also for operative planning to get an idea of plane of dissection.

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