

## PNET derived from GCT ?!

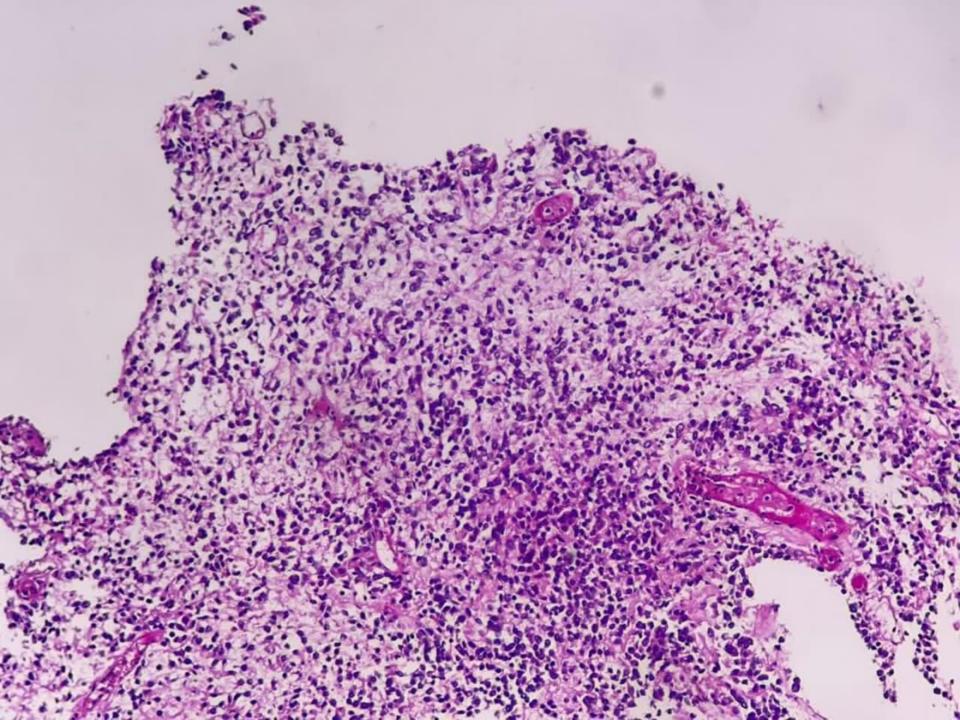
Navid Zavar MD.

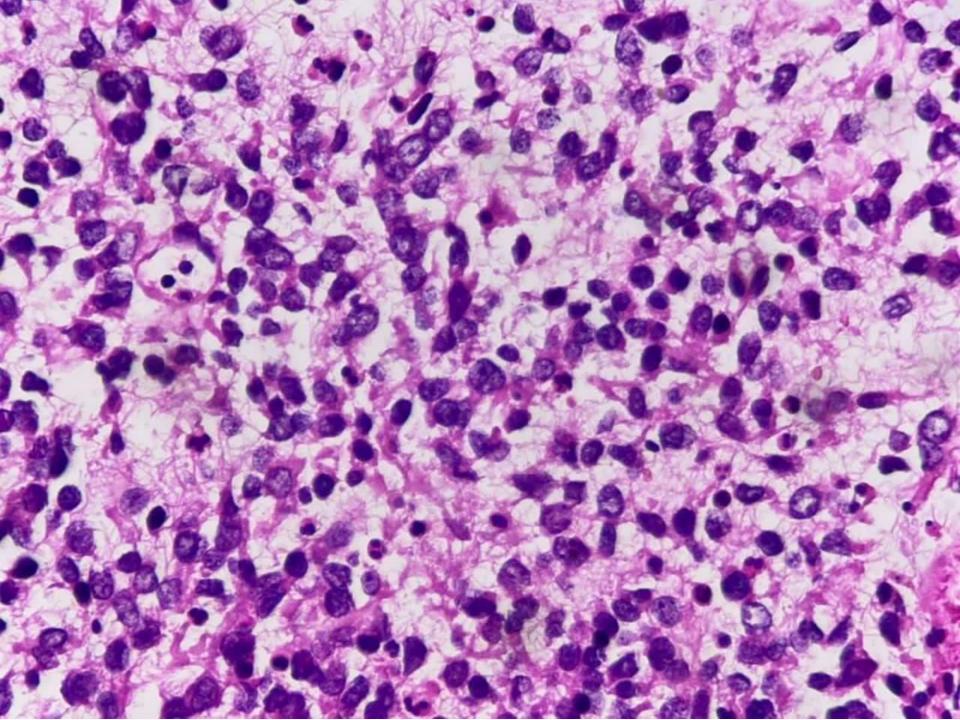
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- A 5-year-old girl with Abd. pain, nausea and loss of appetite
- A palpable Abd. mass in examination
- U.S: a heterogenous mass measuring 107x71x146 mm
- CT: an enhancing heterogenous mass measuring
   62x105x117 mm adjucent to sigmoid extending to LUQ,
   probably originating from sacral vertebrae.
- Needle biopsy : Ewing Sarcoma (confirmed by IHC)







- Positives
- Vimentin
- CD99 (focally)
- FLI 1

- Negatives :
- Myogenin
- Synaptophysin
- EMA
- AFP
- LCA
- Desmin

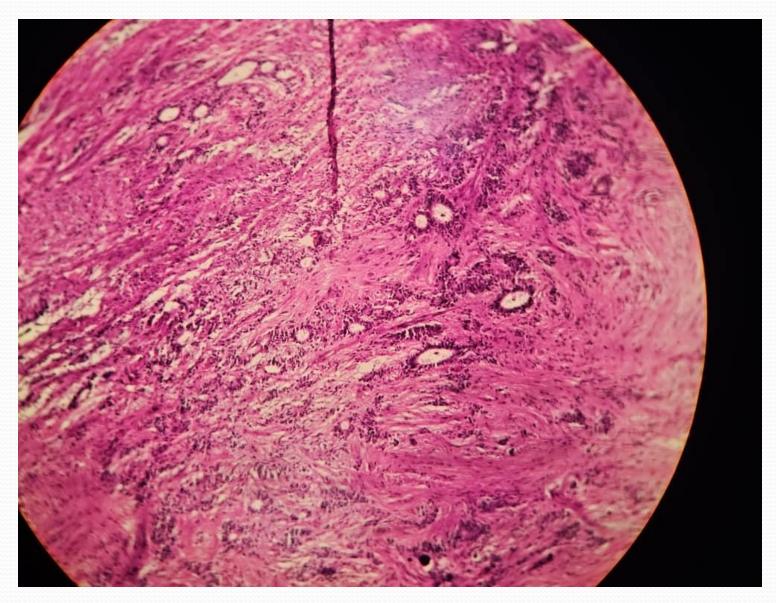
- 5 courses of VAC/IE
- RT was recommended to be postponed.
- MRI: a presacral mass measuring 128x59x71 mm
   (with a more superfacial Abd. Mass 10x17 mm)

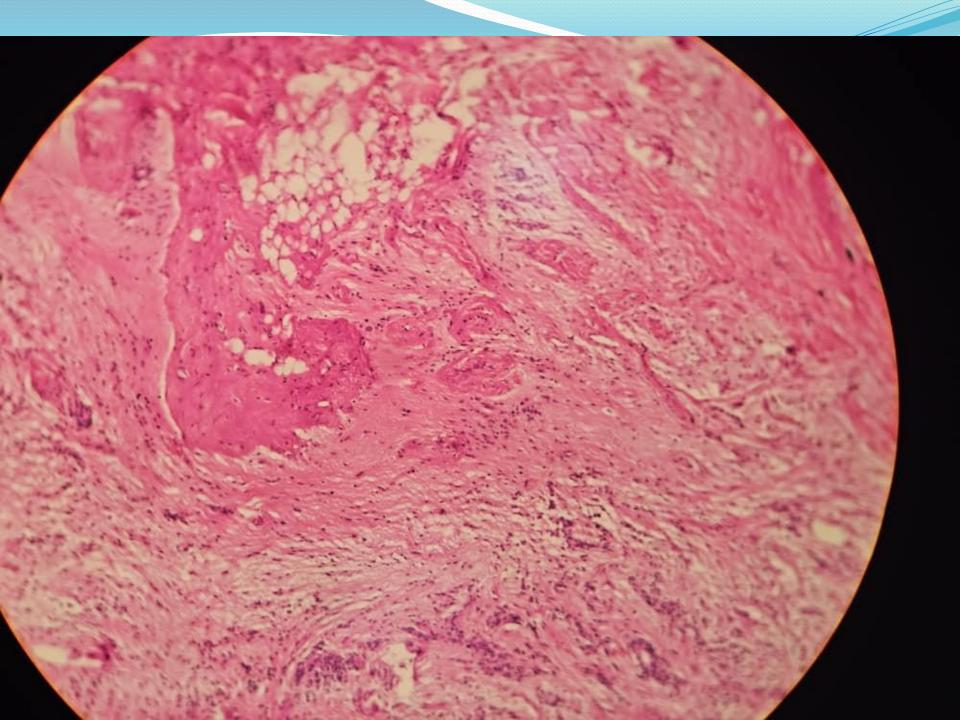


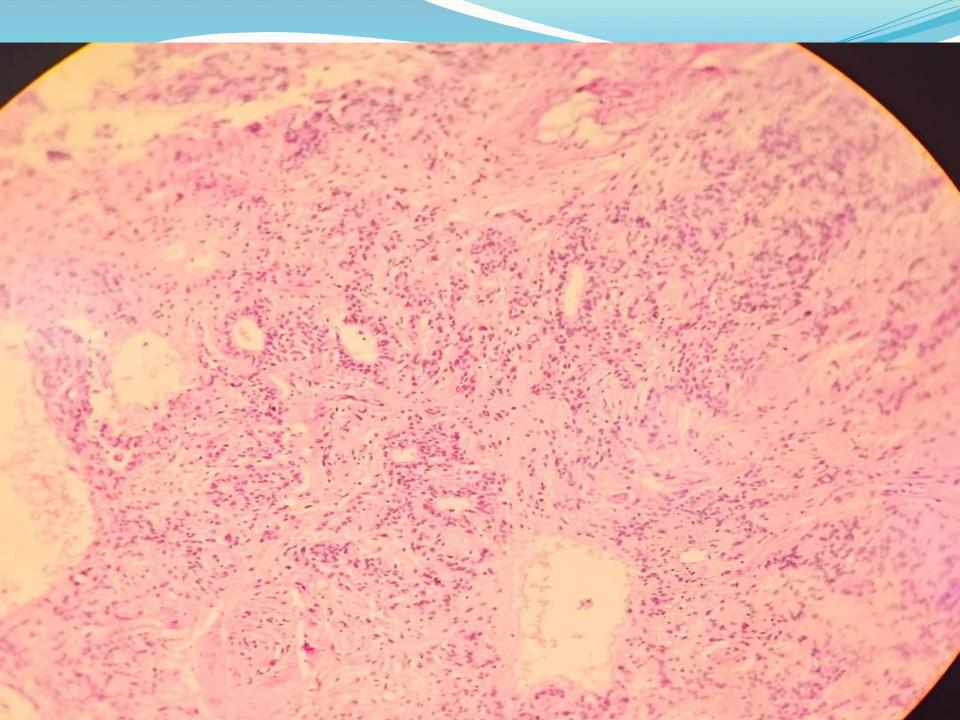
Exisional biopsy: Yolk Sac Tumor (confirmed by IHC)

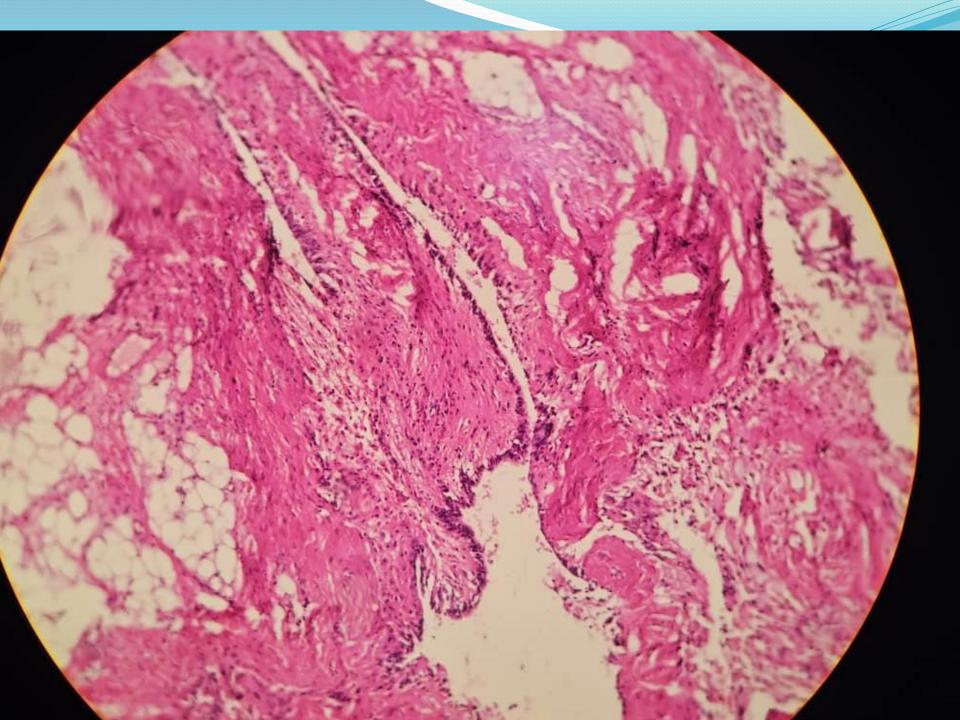


## **Epithelial & mesenchymal features**

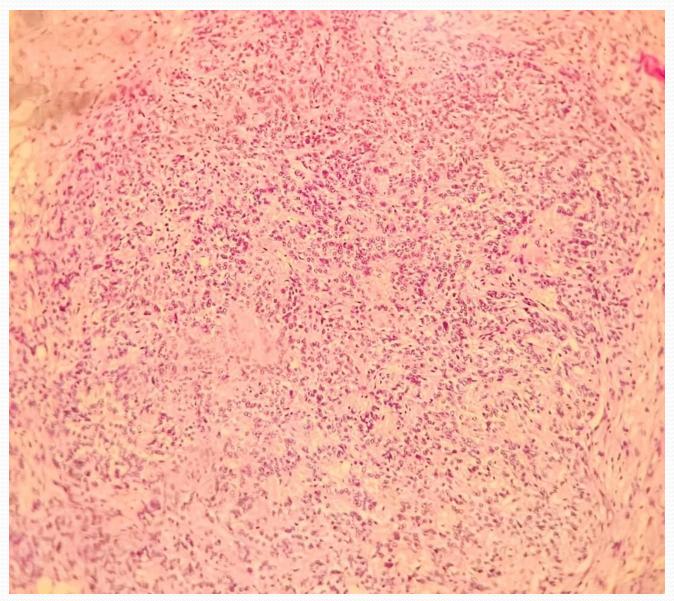




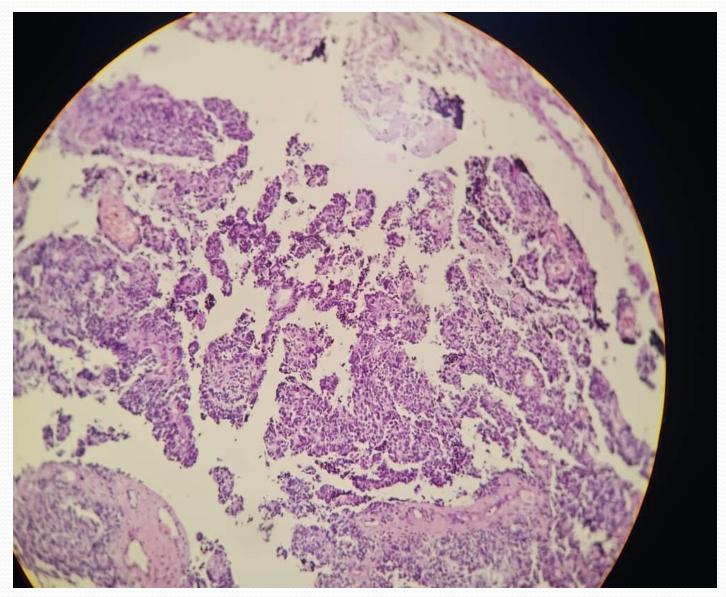




## **Small Round Cell Tumor**



## **Yolc Sac Tumor**



- Positives :
- CD99 (weakly)
- Vimentin
- CK (dot-like)
- Glypican 3
- AFP (weakly)
- SALL 4

- Negatives :
- Chromogranin
- synaptophysin

- $\bullet$  AFP = 0.7
- 5 courses of ICE
- MRI: a T2-hyperintense enhancing mass in the presacral region measuring 32x20x28 mm (inseparable from the outer surface of rectal wall & involving the 4<sup>th</sup> sacral vertebra).
- a similar mass adjucent to R.iliac vessels measuring 41x26x20 mm.
- >a 9 mm mass in the L.intersphincteric space involving the rectal wall.



- Human Pathology: Case Reports (2020)

- Rare Tumors (2014)
- Malignant transformation of teratoma occurs in about 3-6% of metastatic
   GCT, with most of these becoming carcinomas and sarcomas.
- PNET is generally not responsive to cisplatin-based chemotherapy.

- Pathology Case Reviews (2005)
- Most somatic neoplasms arising in germ cell tumors are of teratomatous origin, some from spermatocytic seminoma and a few from yolk sac tumor.
- Somatic malignancies associated with these germ cell tumors do not respond to germ cell tumor chemotherapy.
- The most common somatic neoplasm that occurs in patients with germ cell tumors is sarcoma. About half of these sarcomas are undifferentiated spindle cell tumors. PNET and nephroblastomas have also been reported in substantial numbers of germ cell tumor patients.

