Surgical and Oncological Outcomes of Pediatric Ovarian Germ Cell Tumors: A Retrospective Cohort Study at a Tertiary Cancer Centre

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Background & Aim

- Ovarian germ cell tumors (GCTs) are rare in children; prognosis is excellent with multimodal therapy.
- Evidence from low- and middle-income countries is scarce[1-4].
- **Aim:** evaluate surgical and oncological outcomes at a tertiary cancer center.

Methods

- Retrospective single-center cohort: patients ≤18 years with ovarian GCT, Jan 2021–Jun 2026 (n = 55).
- Outcomes: surgical morbidity, recurrence, survival.
- Fisher's exact and Mann–Whitney U tests.
- Median time since diagnosis: 26.5 months.

Results

55 Patients, median age 13 years

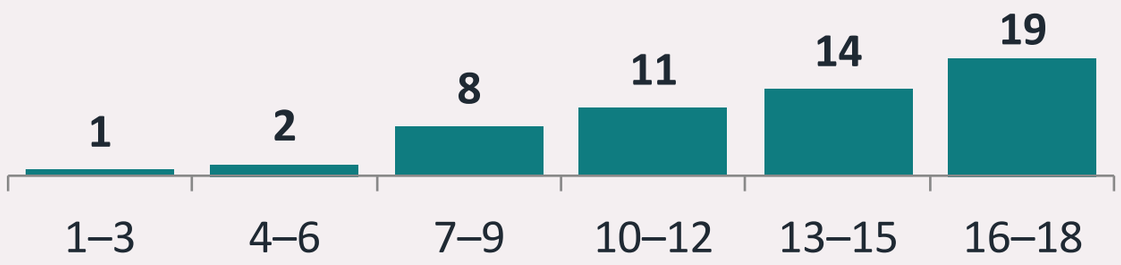
100% Fertility-preserving unilateral SO

60% Completed laparoscopically

14.8% Recurrence (8/54 evaluable)

76% No evidence of disease; 1 death

Age at Diagnosis (years)



75% (41/55) were aged ≥11 years

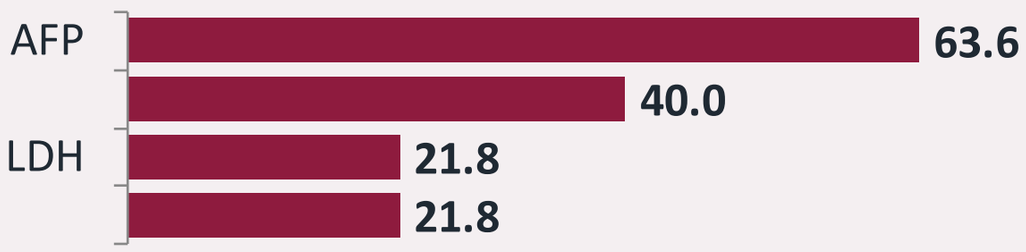
Histology (n = 54)



- Mixed GCT: 24 (44%)
- Dysgerminoma: 11 (20%)
- Immature teratoma: 8 (15%)
- Yolk sac tumor: 7 (13%)
- Other: 4 (7%)

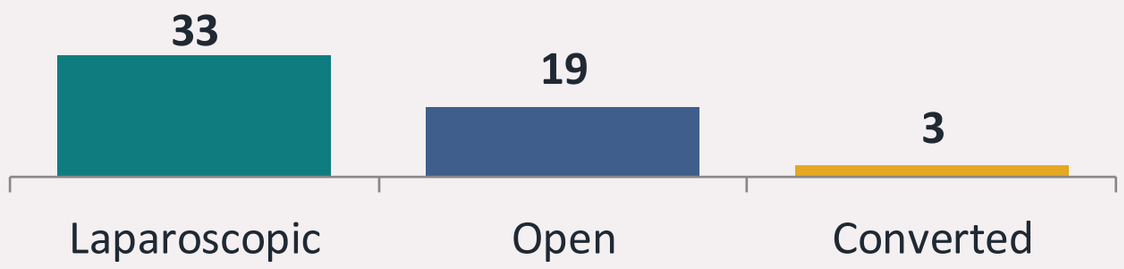
Mixed germ cell tumor was most frequent (44%)

Elevated Tumor Markers (%)



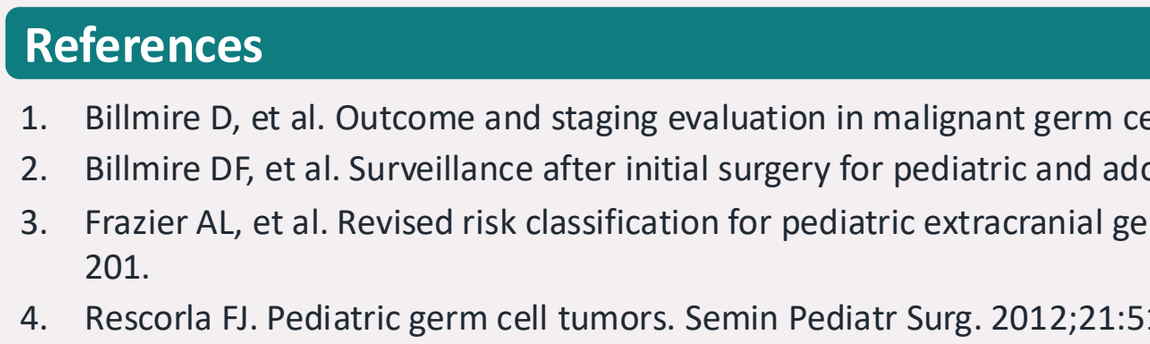
AFP and/or β-hCG elevated in 78% (43/55)

Surgical Approach (n = 55)



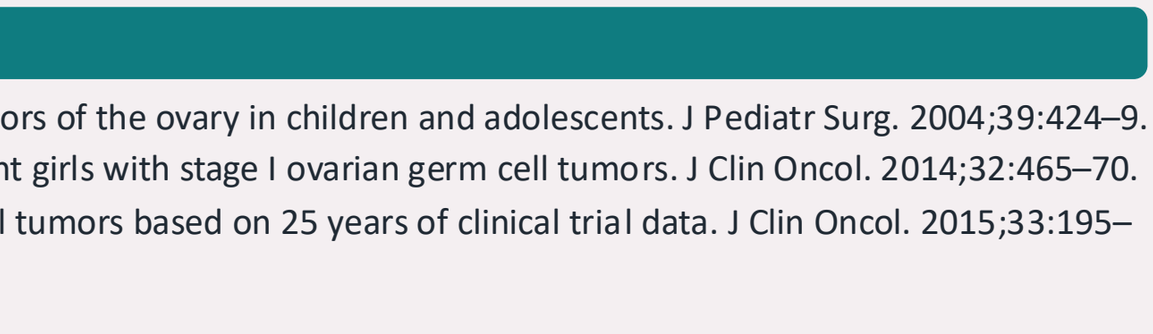
Stay 3 days (laparoscopic) vs 4 days (open), p = 0.007

Necrosis after Neoadjuvant Chemo (n = 44)



93% (41/44) had >70% necrosis; chemo-first in 87%

Recurrence after Surgical Treatment (%)



p < 0.001

Conclusions

- Fertility-preserving surgery plus platinum-based chemotherapy gave excellent outcomes: unilateral salpingo-oophorectomy (SO) in all patients, tumor rupture 1.8%, spillage 5.5%.
- Recurrence occurred in 14.3% of patients, while 71.4% remained disease-free at the median follow-up of 30.49 months. Only one disease-related death was observed, demonstrating excellent overall survival.
- Minimally invasive surgery was feasible in 65% (36/55); **recurrences clustered after upfront surgery** (5/8 vs 3/46) **and with metastases** (4/9 vs 4/45), supporting risk-adapted surveillance.

References

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3. Frazier AL, et al. Revised risk classification for pediatric extracranial germ cell tumors based on 25 years of clinical trial data. J Clin Oncol. 2015;33:195–201.
4. Rescorla FJ. Pediatric germ cell tumors. Semin Pediatr Surg. 2012;21:51–60.