

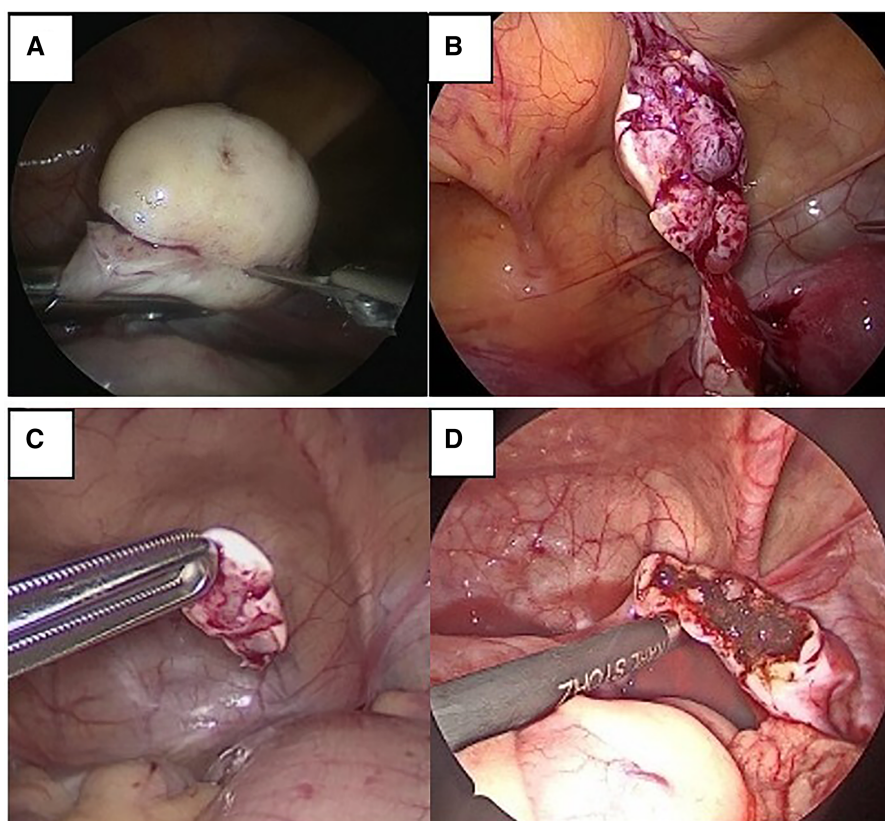


FIGURE 1

Intraoperative view of LOTC. (A) Cold scissors incision on ovarian parenchyma. (B) Laparoscopic removal of ovarian tissue. (C) Ovarian tissue fragment removed for cryopreservation. (D) Ovarian bed spared and coagulated with bipolar forceps for hemostatic effect.

3 Results

3.1 Center 1

The experience in Center 1 in LOTC in children affected by neoplastic diseases, started in January 2002. A total of 93 procedures were performed up to September 2022, in patients undergoing HSCT or sterilizing chemotherapy. The median age at diagnosis was 11.12 years (range: 0–17.49 years) and the median age at the time of the procedure was 13 years (range: 2.7–17.3 years). Twenty-four patients were not pubertal at the time of surgery. Mean operative time was 45 min, sampling was always collected from both ovaries and no drain was left in place at the end of the procedure.

Primary pathologies were acute leukemia (60), Hodgkin's lymphoma (10), non-Hodgkin's lymphoma (10), sarcomas (13). All the patients in this series were candidates for HSCT.

One patient required re-laparoscopy in the first postoperative day due to incomplete hemostasis in one ovary, and subsequent anemization.

No malignant cells were identified at the histopathology evaluation.

3.2 Center 2

In Center 2, a total of 164 patients were treated from January 2002 to September 2022. Mean age at primary diagnosis was 11.12 years (range: 3–17.49 years). Mean age at the procedure was 13 years old (± 4.19 aa, range 1.8–17.9), and 42 patients were not pubertal at the time of surgery. A pelvic ultrasound was performed pre-operatively to evaluate the follicular reserve and consequently which ovary would be sampled (monolateral sampling). The mean operative time was 40 min. The neoplastic pathologies were: leukemia/lymphoma (93), sarcomas (47), central nervous system tumors (10), Wilms' tumor (6), others malignancies (8).

Main indications for cryopreservation were the starting of chemotherapy and/or radiotherapy.

No post-operative complications were reported and patients were discharged on the first or second post-operative day.

3.3 Center 3

In Center 3, the program started in 2011, and a total of 36 patients were considered from May 2011 to September 2022.