SURGICAL MANAGEMENT OF PEDIATRIC OVARIAN TUMORS – CLASSICAL ’OPEN’ OR MINIMALLY INVASIVE SURGERY?

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**Background / Objectives:**

Ovarian tumors in the pediatric age group are rare. A significant number of children with ovarian mass lesions present “out of hours“ as surgical emergencies. Surgical management may involve specialty services notably surgical oncologists or general surgeons. This multi-center study herein reports how the mode of clinical presentation may influence (i) operation (classical ‘open’ vs minimally invasive surgery (MIS)) and (ii) examines if young females presenting as surgical emergency(s) are more likely to undergo radical oophorectomy vs ovarian-sparing surgery.

**Design / Methods:**

Nationwide multicenter voluntary data study registry amongst pediatric oncology centers. Females <16 years with an index diagnosis of ovarian tumor (excluding functional/neonatal ovarian cysts) during 2006 - 2016 were recruited and data analyzed.

**Results**

271 patients with ovarian pathology were identified. Mean age at surgery was 11 years [IQR 8–13]. 68% of cases underwent classical open surgery and 26% had minimally invasive operations. 2.2% surgeries were initially MIS and then converted to open operation(s). 31% of MIS operations were performed as emergency procedures vs 35% as classical open procedures (p=0.65; Fisher’s Exact Test). Tumor size in MIS operations was smaller: median tumor size was 6.5cm [IQR 4.5-10] vs 11cm [IQR 7.25-17.5] in the classical open group (p<0.00001, t-test). Ovary-sparing surgery was significantly more common with MIS (45% ovary-sparing, vs 14.1% in the classical open group, (p<0.00001; Fishers exact test)). Female patients who underwent emergency resection(s) were less likely to have ovarian-sparing surgery.

**Conclusions:**

The majority of female patients reported in this voluntary national study registry underwent open classical surgery for resection of ovarian tumor and had a total oophorectomy. Cases having MIS were more likely to receive ovarian-sparing surgery. Small tumor size in the MIS group cohort may have facilitated fertility-preserving outcomes.