Ovarian reserve failure after laparoscopic cystectomy of small size endometriomas compared with teratomas

Context: The damage to ovarian reserve inflicted by surgery for benign masses represents a challenging issue for the gynecologist. Objectives: The aim of this study was to evaluate and compare quantitative and qualitative analysis of the cyst wall after laparoscopic excision in small size endometriomas versus teratomas. Patients: A total of 38 women of reproductive aged (18 and 40 years) underwent laparoscopic cystectomy of small size endometriomas and teratomas (less 30 mm). Methods: 38 specimens (18 endometriomas and 20 teratomas) were histologically studied. The estimation of the removed ovarian tissue included three measures of ovarian tissue (T1, T2, T3), separately for endometriomas (I group) and teratomas (II group). Also we evaluated the thickness of the cyst wall (E1, E2, E3). After we calculated the number of follicles in removed ovarian tissue and mean thickness of all parameters (T, E). Main outcome measures: Ovarian tissue inadvertently excised with the endometriomas and teratomas was present in 100% and 57% of the cyst specimens respectively. The mean thickness of ovarian tissue removed in I group was 698.8±467.01 μm, in II group - 128.9±206.2 and that of the cyst wall was 1239.48±288.09 μm and 343.38±204.7, respectively. Results: Thus, the thickness of cyst wall and the ovarian tissue inadvertently excised in I group was significantly higher than in II group, p<0.05. The mean number of removed follicles in the histological section were 9.9±11.25 in I group and 0.5±1.23 in II group, p>0.05. Most of removed follicles were primordial follicles (92% and 100% respectively). Conclusion: This study suggests that removal of ovarian tissue and follicular loss after laparoscopic cystectomy is more significant in endometriomas than in teratomas, so we concluded that laparoscopic excision in small size teratomas caused less ovarian reserve damage.