Abstract

Title: „Optimization Approach to the Detection of Sentinel Node in Endometrial Cancer.“

Design: prospective experimental study

Aim of thesis : The purpose of this study was to evaluate predictive value of the in vivo sentinel lymph node (SLN) mapping in patients with endometrial cancer and verify a modified method of the application of subserosal blue dye by laparotomy versus laparoscopy approach. Detection substance is applied subserosally in the uterine edges vicinity the round ligament of uterus and uterine vessels in the isthmic portion of the uterus. Detection rate of the SLN was endpoint of this study. Presence of nodular adenomyosis in uterine specimens with endometrial cancer was another endpoint. The findings were compared with our retrospective study on malignant changes in adenomyosis in women with endometrial cancer.

Materials and methods: Altogether thirty-one patients were divided into two groups. Group A - patients with intermediate and high risk endometrial cancer stages I were subjected to staging laparotomy with intraoperative detection of SLN and subsequent completion of the pelvic and paraaortic lymphadenectomy. Harvested SLN was routinely examined by classical haematoxilin eosin staining and in case of negativity, immunohistochemistry with antikeratine antibodies AE1/AE3 was applied. Group B underwent the same SLN detection scheme and laparoscopically-assisted vaginal hysterectomy with bilateral adnexectomy without lymphadenectomy. All hysterectomy specimens were analyzed for the presence of adenomyosis.

Results: In group A, total of 773 lymph nodes were removed in 18 patients : pelvic 420 (54%) and paraaortic 353 (46%). SLNs were detected in 16 of 18 patients with totalling 59 nodes (7,6 % of all nodes), detection rate 88%. Forty-eight were identified in the pelvis area (81%) and 11 nodes (19%) in the paraaortic area. Three metastatic SLNs were found in two patients (11%). No falsely negative nodes have been demonstrated. In group B, the detection was succesfully in 6 of 13 patients - detection rate 46%. Total of nine SLNs were detected. We

have not succeeded with detection of SLN in para aortic region. Adenomyosis was found in 7 patients (22%), it is about half less than in the retrospective group of 219 patients (40.2%). We did not find even one case the presence of malignant changes in adenomyotic foci compared to retrospective trial where six positive cases (6,8%) were analyzed.

Conclusion: Experimental study results show that the proposed modified approach to label SLNs is applicable. SLN detection comes with hopeful results in laparotomy group. The laparoscopic approach seems as a method with a longer learning curve. By laparoscopy, we were unable to detect any node in the para-aortic region. One of the reason is difficult to visualize the surgical field due to poor accessibility to the area in obese patients. It is believed that benign uterine pathology may affect the lymphatic flow from the uterine body and impair SLN detection capability.