Endometriosis and possible malignant transformation

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Summary

By examining the cause of infertility for a the period of three years in the two largest hospitals in Belgrade, we found 453 cases of endometriosis out of 683 cases of laparoscopy. During the procedure, removal of endometrial foci, histological examination of the sample and removal of genital and peritoneum abnormalities by laser were carried out. Interestingly, in only 8% of the cases were cancerous changes of the ovary diagnosed. Out of 36 patients with established diagnoses, hysterectomy and bilateral salpingo-oophorectomy were performed in four cases.

Key words: Endometriosis; Ovarian carcinoma.

Introduction

In the research and study of this enigmatic disease, it has been reported for years that endometriosis is a benign condition characterized by infiltrative growth and having a very small, if any, possibility of becoming malignant [4]. Although direct endometriosis malignant transformation is rarely seen in histological preparation (less than 1% of the cases), an endometrial focus is today marked as a precursor of malignant diseases [1]. Neoplasias developing from endometrial implants may include glands, stroma and smooth muscular elements. According to the place of origin, they can be ovarian and extra-ovarian. Ovarian neoplasias are much more common (75% of all endometrial neoplasias according to the literature data) [4], with the most common being endometrioid carcinoma. The occurence of malignant neoplasia should not be associated with etiological factors which lead to the development of an endometrial focus [3]. Residual benign tissue of the endometriosis can be observed right next to malignant tissue, with a clearly defined transition zone between the benign and malignant region. In many cases, the evidence of endometrial tissue can not be found because of complete destruction of benign cells by malignant neoplasia [2]. What makes this carcinoma special is the incidence in younger patients, i.e. 26% of published cases have been patients under 40 years of age [3]. Recently published studies on epithelial ovarian carcinoma have suggested the incidence of pelvic endometriosis in 19% to 49% of cases, although histological transformation of benign endometriosis into malignant tissue was not always evident [2]. Suggestions made by biologists and geneticists about the common characteristics in patients with endometriosis and patients with epithelial ovarian carcinoma – inactive tumor suppressive genes – lead to the possibility of direct progression of endometriosis into carcinoma [4]. Thus, the mode of therapy in wide-spread endometriosis, especially endometrioma in the perimenopausal period, should always be surgery [4].

If appendiceal or skin endometriosis is observed, additional registration should be done. According to this, there are four stages of the disease [4]:

Stage I (minimal)	1-5 points
Stage II (mild)	6-15 points
Stage III (medium)	16-40 points
Stage IV (distinct)	> 40 points

During the diagnosis, the stage of the disease should be determined.

Results and Discussion

By examining the cause of infertility over a period of three years in the two largest hospitals in Belgrade, we found 453 cases of endometriosis out of 683 cases of laparoscopy. During the procedure, removal of endometrial foci, histological examination of the sample and removal of changes on the genitals and peritoneum by laser were carried out. Interestingly, in only 8% of the cases were cancerous changes of the ovary diagnosed. Out of 36 patients with established diagnoses, hysterectomy and bilateral salpingo-oophorectomy were performed in four cases, according to the medical board decision and with the patients' consent. Fortunately, the patients had already had children, and all the pregnancies were a result of controlled ovulation or IVF, and the women had known about their endometriosis from the beginning of generative examinations. After removal of the omentum and glands from the iliac cavity and also ovarian glands, we could predict the prognosis. There were no secondary changes in any patients, while in one case we found two positive paraovarian glands. Radiation therapy was not necessary in any case.

In 32 patients, we decided to continue the process of in vitro fertilization but after an agreed period of one year after the pregnancy it would be necessary to perform surgery.

In that group of patients pregnancy was established in

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18 cases, thus after removal of the adnexae with pathological findings of malignancy and endometriosis, salpingo-oophorectomy, a second ovarian biopsy and examination of endometriosis – located between the uterosacral ligaments – were carried out with no malignant lesions found. In the removed adnexae, a borderline form of ovarian carcinoma was found.

Conclusion

Conservative surgery is still one of the main therapy modes, but is mainly reserved for mild cases of endometriosis. Resection is accomplished by sharp removal of the nodes with the application of coagulation, and is mainly used for ovarian endometriosis (endometrioma) or uterosacral nodes. Ablation of endometrial implants is performed mainly by CO_2 laser. Biophysical properties of its ray make it almost perfect for the removal of superficial endometrial implants. Its bioeffect consists of a sudden temperature increase of intra- and extracellular fluid. This sudden water molecule expansion causes evaporization of the tissue, i.e. endometrial implants. By using the well known bioeffect of the warmth to the body, coagulation is achieved. While the evaporization is a consequence of a large amount of energy during a short period of time (laser), coagulation is achieved with lower temperatures during longer periods, causing irreversible damage to cellular proteins. This form of energy is used for the removal of endometrial implants and coagulation of broken blood vessels. Coagulation is achieved by monopolar and bipolar electrocauters, endothermia and by argon laser.

– Any medical process demands a detailed examination and consideration of all possibilities.

– The use of laparotomy and histopathological examination has saved the lives of patients who did not have symptoms of malignancy but had a desire for pregnancy.

– The most severe form, definite ovarian carcinoma, was established in women who had known much earlier about endometriosis and had had many treatments for infertility caused by endometriosis.

– Considering the findings, it is necessary to examine each case of infertility and sterility by laparoscopy, i.e., to enable the surgeon and cytologist to have insight into the problem, thus saving lives and enhancing quality of life quality.

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