OBJECTIVE: Endometriosis is a common cause of pain and has a detrimental effect on the quality of life in women affected with this condition. The aim of our study is to document the changes in several symptoms evaluated by a pain scale at least one year after a laparoscopic surgery for treating patients who suffered from endometriosis of the recto-vaginal septum (RVS) with deep invasion to the surrounding pelvic organs such as rectosigmoid colon and infertility.

DESIGN: Retrospective analysis of the medical records and evaluation responses of mailed questionnaires

MATERIALS AND METHODS: A component Mc Gill pain questionnaire was administered to 44 patients ages 20–39 yr who had undergone radical laparoscopic surgery for endometriosis of the RVS between January 2000 to December 2002. The outcomes of 41 women (33 had no previous surgeries and 8 had at least 1 operation) who completed the questionnaire had extensive surgeries (length of 3 to 7 hours). From these patients 6 had bowel resections, 22 underwent ureteral lysis, and had 1 ureteral anastomosis. Combined laparoscopic and vaginal approaches were used in 12 women. All patients had histologic proven diagnosis. Questions for symptoms like dysmenorrhoea, nonmenstrual pelvic pain, dyspareunia, gastrointestinal, neuromuscular, and urinary were carried out before surgery and after at least one year after surgery (12–38 months). Descriptors terms as mild, discomforting, distressing, horrible, and excruciating were used for the evaluation of the severity of pain as well as a self-rating questionnaire. Statistics analysis was performed using the McNemar test and $p<0.05$ was established as significant.

RESULTS: The percentage of pre-and post-surgical improvement of symptoms is presented in the Table 1. A complete remission of symptoms after surgery was accomplished in 11 patients who had dysmenorrhea, 29 who presented with pelvic pain, 36 with dyspareunia, 32 who experienced gastrointestinal symptomatology, 22 that had neuromuscular symptoms and 8 subjects had no longer urological symptomatology.

CONCLUSION: Both complete pain relief and improvement of it symptomatology was obtained after radical laparoscopic treatment of endometriosis of the RVS. Although this endoscopic approach has proved to be effective several patients remained symptomatic. This may be caused by the neural invasion of deep infiltration of endometriosis and incomplete removal of deep-seeded endometriosis as implants penetrate closer to nerve fibers as disease progresses. Pelvic adhesions and inflammatory tissue compiled with the activeness of endometrial glandular component at the depth of tissue infiltration may further compromise patients′ manifestations. Multidisciplinary team approach with use of timed laparoscopic surgery in experienced hands seems effective for preserving fertility and relieving pain.

Supported by: None.

	PRE OP	POST OP	SIG
Dysmenorrhea	95.1%	73.2%	0.004
Pelvic pain	51.2%	29.3%	0.004
Dyspareunia	65.9%	12.2%	0.001
Gastrointestinal	82.9%	22.0%	0.001
Neuromuscular	82.9%	53.7%	0.004
Urinary	22.0%	2.4%	0.008

P-87

Migraine in women with endometriosis. S. Ferrero, S. Pretta, S. Bertoldi, P. Anserini, V. Remorgida, N. Ragni. Department of Obstetrics and Gynaecology, San Martino Hospital, University of Genoa, Genoa, Italy; Department of Neurosciences, Ophthalmology and Genetics, University of Genoa, Genoa, Italy.

OBJECTIVE: The objective of the current study is to compare the prevalence and characteristics of different types of headache between women with and without endometriosis.

DESIGN: Observational study.

MATERIALS AND METHODS: The subjects of the study were recruited among women of reproductive age undergoing surgery because of benign gynaecological conditions. The subjects identified as suffering headaches were interviewed by a neurologist. The type of headache was classified according to the 1988 International Headache Society criteria. Age at onset, headache frequency, duration of headache (unmedicated), pain intensity, and specific headache features were investigated. The interview included questions on demographic (age, race) and health characteristics / behaviours (height, weight, alcohol use, smoking status, oral contraception). The subjects were also asked if they had ever consulted a physician for headache. The neurologist who performed the interview was not aware of the gynecologic problem of the patients, and in all cases the interview was performed before surgery. The diagnosis of endometriosis was always histologically confirmed; its extent was scored according to the revised classification of the American Fertility Society (rAFS). Patients complaining pelvic pain and / or dysmenorrhoea were asked to rate the intensity of the symptoms on a 10-point ranked ordinal scale. Data were analysed by using the Student's t test, the Mann-Whitney U test, and the χ^2-test.

RESULTS: 133 women with endometriosis and 166 controls were included in the study. There were no significant differences in demographic and health characteristics between the two groups. The prevalence of headache was significantly higher among women with endometriosis (n = 85, 63.9%; 95% CI, 55.1 − 72.1%) than in the control group (n = 60, 36.1%; 95% CI, 28.8 − 44.0%) ($p<0.001$; 22.8, χ^2). When the different types of headaches were considered, only migraine (both with and without aura) was significantly more frequent among women with endometriosis (n = 51, 38.3%; 95% CI, 30.1 − 47.2%) than in the control group (n = 25, 15.1%; 95% CI, 10.0 − 21.4%) ($p<0.001$; 21.1, χ^2). No significant difference was observed in the prevalence of migraine among women with mild (15/39, rAFS I-II) and severe endometriosis (36/94, rAFS III-IV). Migraine intensity did not correlate with the intensity of pelvic pain or dysmenorrhoea. The age at migraine onset was significantly lower in women with endometriosis than in controls ($p = 0.001$). Among subjects with migraine, the mean intensity of pain was similar in women with and without endometriosis; 41.2% (n = 21) women with endometriosis and 32.0% (n = 8) controls reported very high levels of pain (9 to 10 on a 10-point scale). No significant difference was observed in the migraine attack frequency between women with and without endometriosis; 64.7% (n = 33) women with endometriosis and 64.0% (n = 16) controls reported more than one migraine attack per month; 15.7% (n = 8) women with endometriosis and 16.0% (n = 4) controls reported one or more migraine attacks per week. There was a trend for women with endometriosis to have longer attacks than control subjects. 47.1% of women with endometriosis and 48.0% of controls reported to suffer headache during each menstrual cycle.

CONCLUSION: The presence of migraine should always be investigated in women with endometriosis because they have a significantly higher prevalence of this type of primary headache than the general population.

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P-88

Antioxidants (vitamins E and C) decrease Bcl_2/increase apoptosis in eutopic endometrium of women with endometriosis. M. Song, C. Dominguez, E. Lowe, S. Parthasarathy, A. A. Murphy. Emory University School of Medicine, Atlanta, GA; Louisiana State University School of Medicine, New Orleans, LA.

OBJECTIVE: We have shown that continuous Vitamin E and C for two months decreases oxidative stress in peritoneal fluid (decrease in MCP-1, RANTES, IL-6) as well as chronic pelvic pain. Apoptosis is decreased in the eutopic endometrium of women with endometriosis when compared to normal women. This decrease is independent of cycle phase. Low expression of Bcl_2 is associated with a high rate of apoptosis. An increase in expression of Bcl_2 is found in proliferative eutopic endometrium from patients with endometriosis. Since apoptosis is, at least partly, regulated by oxidation, our objective was to determine if continuous antioxidants further increase the apoptosis marker, Bcl_2.

DESIGN: Prospective study

MATERIALS AND METHODS: Eutopic endometrium was obtained from eight women with endometriosis randomized to Vitamin E and C supplementation or placebo for two months as well as normal eutopic endometrium. An endometrial biopsy in the proliferative phase of the cycle was obtained. Using HSCORE, immunecytochemistry was used to semi-quantify Bcl_2 protein.

RESULTS: Bcl_2 protein was noted mainly in glands and epithelial cells in eutopic endometrium of women with endometriosis. Control endometriosis women (3.13 ± 1.03) showed a statistically significant increase in Bcl_2 protein when compared to normal women (2.11 ± 0.41; $P<0.02$). Control endometriosis women (3.13 ± 1.03) showed a statistically significant increase in Bcl_2 protein when compared to endometriosis women on Vitamin E and C (2.17 ± 0.44; $P<0.04$). Eutopic endometrium of women on Vitamin