Int. J. Prenatal and Perinatal Psychology and Medicine Vol. 7 (1995) No. 1, 23–29

The Influence of Labour upon Psychological Condition of Women Undergoing Surgery Because of Leiomyomata

Alfred Reroń

Department of OB/GYN, Collegium Medicum, Jagiellonian University, Cracow, Poland

Abstract

Every diseases, and even moreso every hospital stay creates a serious physical problem to patients. This problem increases whenever surgery is involved, and particularly in cases where hysterectomy with adnexectomy is considered, which brings about the feeling of loss of attractiveness, feminine appeal and of chance to have good satisfying sex. It cannot be doubted that neurohormonal changes influence the behavior of women.

The aim of the study was assessment of the psychological condition of women operated for uterine myomas in relation to parity, extension of surgery and resection or sparing of gonads. The extension of surgery depended on patient's age, number of children, size and number of myomas, macroscopic assessment of the ovaries, and in some cases on intraoperative histopathological examination of myomas or ovaries.

Psychometric tests were made four times, psychophysiological tests were made twice but clinical and biochemical tests and examination were given to patients three times.

Considering the results of own clinical, biochemical and psychologicalstudies it should be assumed that in surgical treatment of uterine myomas in premenopausal women the method of choice should be to leave the healthy gonads, and in all these women, surgical treatment has to be complemented by simultaneous psychotherapeutic and psychoeducational procedures. Moreover in multiparous women, after 3 or more labors significantly more frequent in the postoperative pe-

Correspondence to: Alfred Reroń, M.D., Head of Gynecological Unit, OB/GYN Department, Collegium Medicum Jagiellonian University, Kopernika 23, 31-501 Cracow, Poland

riod were “hot flashes” and nervousness, while nulliparous women significantly more often reported the feeling of loneliness, of not being understood by other people and the sense of being deserted by others.

Zusammenfassung

Jede Erkrankung und besonders jeder Krankenhausaufenthalt bedeutet ein ernstes Problem für die Patienten. Das gilt umso mehr, wenn es um Operationen geht und insbesondere bei Totaloperationen. Dies kann zu Gefühlen führen, weibliche Attraktivität zu verlieren und ebenso die Möglichkeit zu befriedigenden sexuellen Beziehungen. Zweifelsohne beeinflussen neurohormonale Veränderungen das Verhalten von Frauen.

Das Ziel dieser Untersuchung war die Einschätzung der psychologischen Folgen der Operation von Myomen, je nach dem Ausmaß des operativen Eingriffs mit oder ohne Entfernung der Gonaden. Das Ausmaß des chirurgischen Eingriffes hängt vom Alter, der Zahl der Kinder, der Größe und Zahl der Myome, der makroskopischen Einschätzung der Ovarien und in Einzelfällen von der histopathologischen Bewertung von Myomen oder Ovarien ab.

Psychometrische Teste wurden an sehr verschiedenen Zeitpunkten vor und nach der Operation durchgeführt, psychophysiologische Teste zwei Mal und biochemische Teste drei Mal.

Aufgrund der Ergebnisse der klinischen, biochemischen und psychodiagnostischen Untersuchungen kommen wir zu dem Schluß, daß bei der chirurgischen Behandlung uteriner Myome bei Frauen vor der Menopause die Methode der Wahl das Belassen der gesunden Gonaden sein sollte. Bei all diesen Frauen sollte über die chirurgische Behandlung hinaus gleichzeitig psychotherapeutische und psychosoziale Betreuung stattfinden. Bei mehrgebärenden Frauen, nach mehr als zwei Schwangerschaften, gab es signifikant häufiger in der postoperativen Phase Hitzewallungen und Nervosität, während Frauen, die noch nicht schwanger gewesen waren, häufiger von Einsamkeitsgefühlen, dem Gefühl nicht verstanden zu sein und von anderen verlassen zu sein, berichteten.

*

Uterine myomas are neoplasms which are formed from smooth muscle fibres or muscular layer of the uterine vessel walls. They are the most common non-malignant tumours of the reproductive organs in women at the procreative age, occurring in 20–25% of the total female population past 30 years of age and constituting around one third of all gynecological cases[12]. They give a variety of clinical symptoms, the intensity of which depends on the size of the myomas, their location in the uterus and their number. The most common symptoms involve: prolonged heavy menstrual flows occurring in over 30% of women with myomas, intermen-

strual bleedings, lasting from a few to several days, which in consequence lead to considerable anaemia and adverse changes in the cardiovascular system, pain of varying intensity, particularly in large size myomas, and compression of neighboring organs, such as the urinary bladder – pollakiuria, or large vessels of the pelvis minor, leading to swelling and varices of the lower extremities.Surgery is the treatment of choice in uterine myomas, though in the recent years considerable attention has been given to the reports discussing treatment of uterine myomas with LHRH analogans. Surgical treatment can be sparing – myomectomy, leaving the uterus, or subtotal or total hysterectomy with or without adnexectomy.

Every disease, and even more so every hospital stay creates a serious psychical burden to patients. This burden increases whenever surgery is involved, and particularly in cases where hysterectomy with adnexectomy is considered, which brings about the feeling of loss of attractiveness, feminine appeal and of the chance to have good, satisfying sex. Therefore, total hysterectomy with adnexectomy is felt to be a highly stressful procedure and the cause of increased incidence of psychiatric problems. The main problems here are depressions, particularly common in women predisposed to this type of emotional reaction, and increased anxiety as well as fear of premature aging[8,9].

It cannot be doubted that neurohormonal changes influence the behaviour of women, the best proof of which are the changes of mood connected with the menstrual cycle[2]. P. Gath has shown that neurotic conditions are more frequent in females than in males and mostly concern these women who demonstrate premenstrual tension syndrome and other menstrual disturbances[2].

The influence of total hysterectomy with adnexectomy and of parity on the psychical condition of women in labour and women undergoing surgery has been the subject of numerous studies[2,3,5,6]. However, the results of these studies were contradictory. Prevailing in the sixties and at the beginning of the seventies was the opinion, supported by the results of studies published by G. Melody and D. Richards, that total hysterectomy led to depression in ca. 33% of surgical patients, while among the controls, the occurrence of depression did not exceede 7%. However, in the late seventies and in the eighties there came the works of S. Meikle and P. Brodyas well as of R. Martin et al., questioning the results of the previously made and published psychological studies by G. Melody and D. Richardson.

The contradictory results of psychological tests concerning the influence of parity and surgical treatment on the mental condition of surgical female patients as well as long lasting interest of our Department in this particular problem, inspired us to undertake clinical and psychological studies of women operated for most common non-malignant neoplasms which are uterine myomas. We have employed multilevel psychological assessment of the effects of such treatment. It was considered necessary to use three different methods of gathering psychological information, namely: a specially prepared for this study Clinical History Questionnaire (CHQ), Psychometric Tests and Clinical Psycho-physiological Experiment (CPE).

The aim of the study was assessment of the psychological condition of women operated for uterine myomas in relation to parity, extension of surgery and resectionor sparing of gonads.

The tests covered 130 women treated with surgery for uterine myomas at the Department of Gynecology and Obstetrics – Collegium Medicum of the Jagiellonian University in the years 1990–91. Qualified for the tests were patients free from systemic disorders which could have significant influence on the results of both clinical and psychological examinations and tests – such as diseases of the kidneys, liver, cardio-vascular system, endocrine system, and mental disorders.

The extension of surgery depended on patient's age, number of children, size and number of myomas, macroscopic assessment of ovaries, and in some cases, on intraoperative histopathological examination of myomas or ovaries.

When determining the extension of surgical treatment, which each time was discussed in detail with the patient during the qualifying examination, the patient's opinion was also considered. In some cases this led to final decisions which changed the previously planned extension of surgery and increased the number of women in whom subtotal hysterectomy was performed instead of total abdominal hysterectomy.

Basing on the above criteria, the studied population of women undergoing surgery was divided into four groups. Group I included 77 patients of mean age 47.8 – 4.2, in whom total abdominal hysterectomy with adnexectomy was performed. Group II consisted of 23 patients of mean age 42.2 – 2.7, who had total or subtotal abdominal hysterectomy with unilateral adnexectomy. Group III covered 15 patients – mean age 37.8 – 4.3, in whom total or subtotal abdominal hysterectomy without adnexectomy was performed. Group IV was made up of 15 women, mean age 38.5 – 5.1, who had abdominal myomectomy with the adnexa left. When analyzing the patient's parity it was found that 83 women, who make 65.4%, were uniparous or biparous, 28 women, that is 21.5%, were three or more times in D, and 17 nulliparous women made 13.1% of the studied population.

Clinical and biochemical tests and examinations were given to patients three times: before surgery (1st stage) at 8–12 day after surgery (2nd stage) and 6 months after surgery (3rd stage).

Psychophysiological tests were made twice: before surgery (1st stage) and 6 months after surgery (3rd stage), while psychometric tests were made four times: at 1st, 2nd and 3rd stage of study and as a delayed examination – 24 months after surgery.

At the 3rd stage of the study frequency of and intensity of neurovegetative symptoms was assessed with the help of the Kupperman index.

Assessed in the Psychophysiological Clinical Experiment was the mean relaxation level in the dermo-galvanic reaction (DGR) which would reflect patient's capability of spontaneous physical and mental relaxation, maximum DGR strength to experimental sound stimulus (DGRMAX), maximum DGR relaxation time to experimental sound stimulus – (TMAX), and peripheral temperature changes (PT), which is a good index of general vascular relaxation and is connected with vasomotor reflex reactions. In the psychometric examination the following psychological tests were used: the Eysenck Personality Test, the Catell Anxiety Chart, the Zung Fear Scale, the Zung Depression Scale, the Beck Depression Scale and the Buss-Durke Aggression Scale (Moods). The Eyseneck Personality Test, due to its specificity, was used only at the first stage of the study. The remaining four tests were repeated four times.

In the biochemical tests, among many biochemical indices assessed were those which, from the clinical point of view, play a special part in the process of biological and psychological adaptation. These included the adrenal cortex hormones metabolites, gonadotrophins and lipoproteins in blood.

In order to prove possible correlations between the biochemical and psychological test results in women treated with surgery, a correlation factor between these two types of tests has been computed.

Assessment of the results of clinical examinations showed that the frequency of postoperative infections was 5.4% which well differs from the higher frequencies of such complications reported by other authors. The low percentage of postoperative infections was surely influenced by preventive use of antibiotics in over a half (53.8%) of the total number of operated patients. Only in once case ,after myomectomy, on the day of surgery there was heavy bleeding from reproductive tract, which could not be controlled by conservative procedures and required surgical intervention and hysterectomy. Therefore, it can be stated that the extensiveness of surgical procedure had only moderate influence on the frequency of occurrence of postoperative infections in women treated with surgery.

As far as biochemical tests are concerned – a significant increase of mean values of FSH and LH gonadotrophins were found in group I and II women at the 3rd stage, which means after 6 months from the surgery, as compared to the preoperative test. The differences between the test results in the remaining groups were statistically insignificant.

The results of blood lipids determination, irrespective the extensiveness of the surgical procedure, showed a significant decrease of total cholesterol and HDL and LDL lipoproteins at the 10th day after surgery, and their normalization at the delayed tests after 6 months, while the triglyceride level at the 10th day after surgery increased significantly, returning to the original value after a 6 month period.

Analyzing the results of determining 17-ketosteroids and 17-hydroxycorticosteroids it should be stated that 6 months after surgery there occurred a significant increase in values of both 17-KS and 17-OHCS in group I, when compared to preoperative test and to the test made at the 10th day after surgery.

Assessing the values of Kupperman index one can say that the frequency of occurrence and the intensity of neurovegetative symptoms in women after total hysterectomy with adnexetomy, when compared to the remaining groups, is significantly higher in seven out of eleven analyzed symptoms of the menopausal syndrome, despite the use by majority of them of substitute hormonal therapy.

Summing up the data from the Clinical History Questionnaire one should observe that it was quite surprising when patients reported that the most difficult moment in the whole course of treatment were the first days of their stay in the hospital and not the surgery itself or the gynecological examination. It points to the necessity of improving the psuchoeducational measures in dealing with the patients both in the preoperative and postoperative periods. Therefore, one of the practical effects of the present paper is the development of principles of psychoeducational measures which should be taken.

The obtained results allowed to formulate the following conclusions:

1. In all studied groups of woman there occurred changes of self-image, both in the test made after 6 and after 24 month after surgery, but the woman who had total abdominal hysterectomy more often reported the feeling of aging as a permanent, unfavorable change, as well as a sense of being crippled. The woman treated with the sparing procedures (leaving the ovaries) were more optimistic about the future.
2. In the opinion of patients, the most difficult moment in the total course of treatment were the first few days of their stay in the hospital and not the surgery or the gynecological examination.
3. Among the examined patients there was a relationship between their age and the extend of surgery and the self-assessment of own sexual attractiveness. The more extensive the surgery was, the more pessimistic the patients' attitudes towards their sexual life and the future.

   Unfortunately, even though the patients were informed about the nature and course of the surgical treatment, one third of the woman under study did not realize what kind of surgical treatment had been given to them.
4. At all stages of the study the woman manifested high values at the anxiety scales, and 24 months after the operation, patients who had total abdominal hysterectomy more often showed values expressing higher anxiety than the remaining women.
5. The patients' depression level varied. After 24 months from the operation, the deepest depression was manifested by women after total abdominal hysterectomy. and the lowest by the those who had abdominal myomectomy. Also the highest level of fear, 24 months after the operation, was observed in patients after total abdominal hysterectomy, while in women treated with abdominal myomectomy the highest level of fear occurred in the preoperative period and the lowest – 24 months after the surgery.
6. The increase of anxiety an fear found in patients at psychometric tests, was confirmed by the results of psychophysiological examinations which showed increased neurovegetative excitability and weakened ability to relax.
7. Own clinical procedure has been found to agree with the current methods of surgical treatment of uterine myomas, which base the decisions on such factors as the extend of the surgery, the patient's age, parity and the number, size and location of myomas. However, considering the results of own clinical, biochemical and psychological studies it should be assumed that in surgical treatment of uterine myomas in premenopausal women the method of choice should be to leave the healthy gonads, and in all these women, surgical treatment has to be complemented by simultaneous psychotherapeutic and psychoeducational procedures.
8. In multiparous women, after 3 or more labours, significantly more frequent in the postoperative period were "hot flashes" and nervousness, while nulliparous women significantly more often reported the feeling of loneliness, lack of understanding from other people and the feeling of being deserted by others.

References

1. Fedor-Freybergh, P.G. (1994). Psychoneuroimmunology: An Integrated Approach to Modern Philosophy in Medicine and Psychology. In: *Pathophysiology of Immune-Neuroendocrine Communication Circuit*. Mattes, Heidelberg, pp. 247–257
2. Gath, D., Osborn, M., Bungay, G. et al. (1987). Psychiatric disorder and the gynecological symptoms in middle aged women: a community survey. *Brit. Med. J.* **294**, 213
3. Gath, D., Cooper, P., Day, A. (1981). Hysterectomy and psychiatric disorder: Levels of psychiatric morbidity before and after hysterectomy. *Br. J. Psych.* **140**, 335
4. Klimek, R. (1990). Causal prevention of cancer as a natural biological phenomenon. *Medic. Biol. Environ.* **18**, 8
5. Martin, R.L., Roberts, W.V., Cleyton, P.J., (1977). Psychiatric illness and non-cancer hysterectomy. *Diseases Nerv. Syst.* **38**, 974
6. Martin, R.L., Roberts, W.V., Cleyton, P.J. (1980). Psychiatric status after hysterectomy. *JAMA* **224**, 350
7. Meikle, S., Brody, P.D., Pysh, F. (1979). An investigation into the psychological effects of hysterectomy. *J. Nerv. Ment. Disease* **164**, 36
8. Ostrzeński A. (1992). Psychological advantages of advanced endoscopy vs laparotomy in gynecological surgery. In: Klimek, R. (ed.) *Pre-Perinatal psycho-medicine*. Dream, Kraków, p. 95
9. Richards, D.H. (1973). Depression after hysterectomy. *Lancet* 430
10. Richards, D.H. (1974). A post-hysterectomy syndrome. *Lancet* 983
11. Richardson, A.C., Lyon, J., Graham, E.E. (1973). Abdominal Hysterectomy: Relationship between morbidity and surgical technique. *Am. J. Obstet. Gynecol.* **115**, 953
12. Vollenhoven, B.J., Lawrance, A.S., Healy, D.L. (1990). Uterine fibroids: a clinical reviev. *Brit. J. Obstet. Gynaecol.* **97**, 285