The impact of hysterectomy as uterine fibroid therapy on personality traits and psychological symptoms of patients

V. LEANZA, G. CASTRONOVO, A. MAIORANA, G. LEANZA, A. LEANZA

SUMMARY: The impact of hysterectomy as uterine fibroid therapy on personality traits and psychological symptoms of patients.

V. LEANZA, G. CASTRONOVO, A. MAIORANA, G. LEANZA, A. LEANZA

Background. Uterine fibroid is the most common form of benign disease of the female genital tract. The fibroids can cause infertility and are characterized by varied symptoms. In a surgical hysterectomy, the doctor treating a fibroid provides for the total ablation of the uterus, which is destructive both on the psyche and the body. The purpose of this work is to understand the way in which a hysterectomy can significantly affect the physical and mental condition of a woman.

Method. The research made use of two important instruments for measuring personality traits and for detecting psychological and psychopathological symptoms: the MCMI-III (Millon Clinical Multiaxial Inventory) and the SCL-90-R (Symptom Checklist - 90 - R).

The research sample consists of 200 female subjects who have been diagnosed with uterine fibroids, of which 100 are women who underwent myomectomy and 100 are women who underwent hysterectomy for the same disease.

Results. The research has shown that with regard to women between the ages of 46 and 55 years old, there is no significant difference on the scales of the two tests between those who have preserved the uterus by removing the fibroid and those who underwent hysterectomy. Analysis of variance (ANOVA) showed, instead, significant differences with regard to women aged between 35 and 45 years old.

Conclusions. The findings support the argument that there is not a real syndrome “post-hysterectomy”. Although the uterine ablation is configured as a psychophysical impact intervention, depressive symptomatology, multiple somatic complaints or discomfort from a sexual point of view evidenced by women immediately after operation would be attributable to morbid pre-existing conditions. Nevertheless, younger adult women, sexually more
Introduction

The concept of fibroma refers to benign fibroid tumors of the uterine myometrium. It is considered the most common cancer in women. Clinical studies report an incidence of 25-30% of women of childbearing age, with greater recurrence after 40 years old and in black women. Fibroids, in fact, rarely cause symptoms before 30 years of age. Although their cardinal symptoms are dysmenorrhea, menorrhagia and whites, the most frequent symptoms are directly related to the localization of the tumor in the uterus. This constellation of symptoms can be characterized by disorders such as pelvic pain, oppressive abdominal feeling or compression of nearby organs, especially the bladder and the intestine; the patient in these cases relates abdominal cramps, repeated stimuli to urinate (urinary frequency) especially at night, constipation or back pain, bleeding disorders such as bleeding loss (bleeding) or heavy periods (menorrhagia) and, finally, repeated miscarriages, pain during intercourse sexual or premature births. Fibroids can cause infertility because of their size or location since they prevent contact between the sperm and the egg: they can be located inside the uterus (endometrial cavity), in the thickness of its muscular wall (myometrium) or grow toward the outside (perimetrium and pelvic areas).

This type of tumor can vary in diameter from a few millimeters to a size just big enough to fill the entire abdominal cavity. In addition, fibroids can be single or multiple. Ninety-five percent of fibroids have the uterine as the preferred locus in a body.

Normally they increase in size during the reproductive years and may regress at menopause. They are completely enclosed by a fibrous connective tissue capsule containing the blood vessels that supply blood to the tumor. Benign uterine tumors can be classified into four categories:

- **Submucosal**: tumors flock towards the inner part of the cavity of the uterus, to the endometrium.
- **Subserous**: when tumors only affect the surface. A tumor appears as a bulge surrounded by the peritoneum and it could be pedunculata.
- **Infralegamentarius**: fibroma is interposed between the two layers of the uterine ligament.
- **Intramural**: when the neoplasm is found in the muscle inside wall, which undergoes a deformation.

The most appropriate therapy for the patient is chosen on the basis of the age of the woman, the type of fibroid, its histology, its localization and its growth state:

- **Myomectomy**: surgical removal of uterine fibroids.
- **Hysterectomy**: removal of the uterus (preferred solution for women in menopause and for large fibroids at the advanced stage).
- **Embolization**: involves blocking the blood flow in the uterus.
- **Drug Therapy** (e.g., birth control pills for fertile women).

A diagnosis can be made through pelvic examination or by imaging studies.

As regards their treatment, fibroids that do not give symptoms should be left in place and the patient placed under observation. Medical treatment that uses similar luteinizing hormone-releasing hormone (LHRH) causes a reduction in the volume of fibroids, but their growth resumes when the administration of LHRH is suspended. If there is evidence of an unusually rapid growth, the fibroids should be removed (1-4).

The therapy that is worth special attention with regard to psychological and emotional impacts that results from it is surely hysterectomy. This operation involves the removal of the uterus and remains the only permanent solution for uterine fibroids.

Each year about 5,000 women across the world undergo a hysterectomy. In addition, this interven-
The impact of hysterectomy as uterine fibroid therapy on personality traits and psychological symptoms of patients

Hysterectomy is one of the more popular interventions (5-9).

The problem is that hysterectomy eliminates any possibility of having children and if the transaction also provides for the removal of the ovaries, then it causes menopause.

The surgery can be performed in two ways: abdominal or vaginal. The first mode (laparoisterectomia) is used generally to remove large tumors, or when a surgeon has to remove the ovaries and fallopian tubes (annessiection) or needs to explore the adjacent structures, such as the lymph nodes in the pelvic region. The vaginal hysterectomy (colpoisterectomia) is recommended, instead, if the size of the uterus is less than that which typically occurs at the twelfth week of pregnancy, there is no suspicion of other abdominal diseases and when there is a need of surgery for cystocele, enterocoele or rectocoele (10-14). Most women with uterine fibroids can choose to keep the ovaries. Abdominal hysterectomy is done under general anesthesia, most women staying about 3-4 nights in hospital, and recovery time is approximately 6-7 weeks.

Forty-three percent of women with fibroids said they had problems in sexual relations because of the pain or discomfort caused by the disorder, 27% report having had a drop in work performance or a worsening of relations with a partner or family members. Approximately 20% of patients report impacts on social or sport activities and 16% believe they “cannot freely choose how to dress”.

The treatment of uterine fibroids varies greatly from one country to another, and doctors almost always resort to painkillers and the contraceptive pill (15-19). Italy along with France are countries where fewer hysterectomies are performed to remove the fibroids; therefore, the option to remove the entire uterus would be reserved only in the cases where it becomes really necessary. Sometimes the hysterectomy operation takes the form of a real attack on the body and the female image. In fact, hysterectomy, in addition to the surgical risk, also results in the loss of reproductive capacity and of an organ that has great symbolic importance on female identity (20-24).

Therefore, depression before surgery is also associated with experiences of decrease in sexual desire, dyspareunia, vaginal dryness, and the fear of a possible anorgasmia linked to the removal of the uterus.

According to a British study on the psychological sequelae of the isteroannessiectomia, the prescription of hormone replacement therapy immediately after surgery and regular follow-up of long-term complications may lead to an improvement of the psychological state of the patient.

Materials and methods

The research work was carried out on a sample of 200 female patients interviewed at the Department of Obstetrics and Gynecology at “Santo Bambino” Hospital of Catania. The sample consisted of 100 participants who have undergone hysterectomy and 100 participants who only have excised uterine fibroids (myomectomy). The participants of the sample were divided into age groups: the first band included individuals between 35 and 45 years old; the second included participants between 46 and 55 years old.

The research made use of two Self Report Inventories for measuring personality and psychological problems and/or psychopathology symptoms: the Millon Clinical Multiaxial Inventory-III (MCMI-III) and the Symptom Checklist - 90 - Revised (SCL - 90-R).

Millon Clinical Multiaxial Inventory (MCMI-III) (25)

The test consists of 175 items of dichotomous responses to true-false questions, of which 24 scales and 4 correction indexes. In addition to the distinction between psychiatric symptoms and stable rules of the personality, the scales are grouped according to the level of severity of psychopathology and each axis is made up of dimensions that reflect the major syndromes. The eleven scales ranging from 1 to 8B allow a diagnostic classification compared to Axis II of DSM-IV, personality disorders (which Millon, however, prefers to call “personality styles”). The three scales S, C and P measure particularly rigid and maladaptive personality styles. Stairs A to R are relevant to the measurement of some Axis I of DSM IV clinical syndromes, which complements the three scales SS, CC and PP indicating the presence of particularly debilitating or serious clinical syndromes. The remaining four scales (the X, Y, Z and V) form the group of the indices of adjustment and provide information on the validity of the protocol. The indices of adjustment can be interpreted as manifestations of the attitude of a patient with respect to the...
All the described scales, with the exception of correction indexes, are expressed in basic rate (BR) scores, the distribution of which reflects the prevalence of the disorder in the population making, therefore, unnecessary the comparison with the normative group. For each of these scales, the BR score of 60 indicates the average value expected, while for a correct assessment of the results in the diagnostic profile two cut-off points are considered: a score greater than or equal to 74, indicating the presence of the trait or the personality style or clinical syndrome, or a BR score greater than or equal to 84, indicating a particular intensity or primacy of a particular personality style or measured syndrome. As regards scales measuring personality disorders or severe clinical syndromes (S, C, P, or SS, CC and PP), a score greater than or equal to 74 is enough to assume a psychopathological or otherwise severely maladaptive framework.

The test is connected by an application to automatically carry out the scoring through the PSY4s software program. The report contains personality characteristics and a patient’s symptoms and summarizes the results of several dimensions: the severity of the disorder, the presence of a clinical syndrome, pathology of the basic personality, psychosocial stress, and therapeutic implications (7).

The Symptom Checklist - 90 - Revised (SCL-90-R) (26)

Conceived in the form of a 90-item questionnaire to reflect the configuration of psychological symptoms (over a previous week including the day of administration) of non-clinical and clinical patients, the SCL-90-R is used to measure change in a patient, to evaluate results of psychotherapy, to evaluate the results of pharmacotherapy, to identify early patients at risk of suicide and, especially, to detect 9 primary symptom dimensions:

- **Somatization (SOM)**: reflects the discomfort linked to the perception of dysfunction in one’s body; the symptoms are focused on cardiovascular, gastrointestinal, respiratory apparatus, etc.
- **Obsessiveness-Compulsiveness (O-C)**: focuses on the thoughts and impulses, and on the experimented actions as persistent and irresistible of ego-alien or undesirable nature.
- **Interpersonal Hypersensitivity (IS)**: focuses on feelings of inadequacy and inferiority, especially in comparison to other people.
- **Depression (DEP)**: includes feelings of hopelessness, suicidal thoughts and other symptoms related to cognitive and somatic depression.
- **Anxiety (ANX)**: includes general signs of anxiety such as nervousness, tension, tremors, panic attacks, feeling of dread.
- **Hostility (HOS)**: reflects thoughts, feelings and behaviours characteristic of a negative affective state of anger.
- **Phobic Anxiety (PHOB)**: is defined as a persistent fear of reaction from a specific person, place, object or situation that is perceived as irrational or out of proportion to the stimulus.
- **Paranoid Ideation (PAR)**: projective thinking, hostility, suspiciousness, grandiosity, referring to oneself, fear of loss of autonomy and ravings are all primary expressions of this disorder.
- **Psychoticism (PSY)**: represents the construct as a dimension of permanent human experience and contains items indicative of retreat and isolation as the first-rank symptoms of schizophrenia.

Moreover, seven additional items (OTHER) assessing appetite and sleep disorders are included. Three global indices complete the assessment:

- **Global Severity Index (GSI)**: the best overall indicator of the intensity of psychological distress levels complained by a patient.
- **Positive Symptom Total (PST)**: the number of symptoms reported by the subject.
- **Positive Symptom Distress Index (PSDI)**: used as an index of response style.

Global indexes offer more flexibility in the overall assessment of the psychopathological state of the patient, allowing to dispose of symptom severity and psychological distress indicators.

The test is accompanied by an application to automatically carry out the scoring through the PSY4s software program. The report includes: the clinical profile of a respondent, an interpretative narrative of a respondent’s scores, a discussion of pathognomonic signs, symptoms to which a respondent has answered with “very” and “very much” and responses to individual items (27).

**Results**

Research has shown that for women aged between 46 and 55 years old there are no significant
differences on the scales of the two tests used between those who underwent a myomectomy and those who underwent a hysterectomy. The ANOVA revealed, however, significant differences with regard to women aged between 35 and 45 years. In particular, younger women of the sample reported higher scores in the O-C scale of the SCL-90-R (F = 4.094; p = 0.05), and in the following scales of the MCMI-III compared with women aged between 46 and 55 years old (Table 1).

- (1) personality schizoid (F = 5.618; p < 0.05);
- (2A) personality avoidant (F = 8.569; p < 0.01);
- (2B) personality depressive (F = 8.733; p = 0.005)
- (4) personality histrionic (F = 8.794; p = 0.005);
- (8B) personality masochistic (F = 6.187; p < 0.005);
- (S) personality schizotypal (F = 8.968; p = 0.005);
- (A) anxiety (F = 6.939; p < 0.05);
- (H) somatization (F = 4.928; p < 0.05);
- (D) dysthymia (F = 18.340; P < 0.001), (Figure 11);
- (R) post-traumatic stress disorder (F = 14.720, P < 0.001);
- (SS) disorder of thought (F = 5.430; p < 0.05);
- (CC) major depression (F = 8.235; p < 0.01).

Discussion and conclusions

The present work has shown that, with regard to women aged between 46 and 55 years, there was no significant difference in the tests, between those who had only the excised uterine fibroids and those who underwent surgical hysterectomy. Therefore, this result confirms the view that there is no real “post-hysterectomy syndrome” but the depressive symptoms, multiple somatic complaints or discomfort from a sexual point of view most obvious from women immediately after surgery would be attributable to any pre-existing medical conditions. For example, there are no consistent evidences regarding the loss of libido after hysterectomy, and the most recent studies related to postoperative psychological changes seem to confirm the small influence of hysterectomy against depression. Nevertheless, younger women (aged 35 to 45 years old) reported significantly higher scores than older women (46 to 55 years old) in the following factors of the MCMI-III: schizoid, avoidant, depressive, masochistic, schizotypal, anxiety, somatization, dysthymia, post-traumatic stress disorder, thought disorder, major depression and SCL-90-R scale “obsessive-compulsive behaviour”. Therefore, with regard to women of childbearing potential who are sexually active, hys-

---

**Table 1** - Means (M) of the Study Variables for the Significant Results of the Women Sample Age Between 35 and 45 Years Old.

<table>
<thead>
<tr>
<th></th>
<th>Myomectomy</th>
<th>Hysterectomy</th>
<th>F(1,40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O-C</td>
<td>0.67</td>
<td>1.09</td>
<td>4.09*</td>
</tr>
<tr>
<td>1</td>
<td>7.95</td>
<td>11.37</td>
<td>5.62*</td>
</tr>
<tr>
<td>2A</td>
<td>4.19</td>
<td>7.58</td>
<td>5.87**</td>
</tr>
<tr>
<td>2B</td>
<td>4.29</td>
<td>8.74</td>
<td>8.73**</td>
</tr>
<tr>
<td>4</td>
<td>17.81</td>
<td>13.74</td>
<td>8.80**</td>
</tr>
<tr>
<td>8B</td>
<td>2.24</td>
<td>4.11</td>
<td>6.19*</td>
</tr>
<tr>
<td>S</td>
<td>2.24</td>
<td>5.16</td>
<td>8.97**</td>
</tr>
<tr>
<td>A</td>
<td>4.24</td>
<td>7.79</td>
<td>6.94*</td>
</tr>
<tr>
<td>H</td>
<td>4.71</td>
<td>7.68</td>
<td>4.92*</td>
</tr>
<tr>
<td>D</td>
<td>4.57</td>
<td>10.11</td>
<td>18.34**</td>
</tr>
<tr>
<td>R</td>
<td>2.57</td>
<td>8.74</td>
<td>14.72**</td>
</tr>
<tr>
<td>SS</td>
<td>4.29</td>
<td>7.00</td>
<td>5.43*</td>
</tr>
<tr>
<td>CC</td>
<td>4.43</td>
<td>8.26</td>
<td>8.23**</td>
</tr>
</tbody>
</table>

*p < .05, **p < .01, ***p < .000
Hysterectomy is an inevitably destructive experience that potentially alters the thinking of a patient herself and how a patient is perceived by others. Furthermore, a patient has to face not only the risks of anesthesia and intra- and post-operative compliance and rehabilitation, but also the appreciation of her sense of identity because the surgery involves a noticeable change in the body affecting self-perceived femininity. It is important to verbalize any kind of psychological issues that may precede hysterectomy in order to establish a spontaneity and trusting relationship with the doctor and avoid symptomatic relapse soon after the operation. It often happens that patients do not establish a sincere relationship with their doctors about sexual problems. Many patients are too shy to talk about their fears and unduly aggravate a framework that contributes to several urban legends. For example, in some areas of South America there is the belief that hysterectomy is the cause of homosexuality and loss of sexual desire with disastrous consequences in the couple’s life. Because for many patients it is difficult to report problems related to sexuality, it is important to intervene upstream by inviting women to verbalize any kind of experiences that can still be brought up before surgery (28).

In conclusion, from the psychological and sexual point of view, patients under 46 years old prefer the uterus-conserving surgery (myomectomy), while after that age there are no significant differences in preference, although the overall symptomatology of hysterectomy patients (dryness and prolapse) determines more pronounced psychological effects compared to those who suffered from a simple removal of the fibroma (29).

References

24. Pace U, Madonia C, Passanisi A, Iacolino C, Di Maggio R. Is sensation seeking Linked only to Personality traits? The role of Quality of attachment in the development of sensation...
The impact of hysterectomy as uterine fibroid therapy on personality traits and psychological symptoms of patients