The Impact of Benign Gynecological Diseases on Mental Health

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Abstract The aim of the present study was to investigate differences of mental impact depending on a type of benign gynecological disease or scheduled surgical procedure. Total of 293 women (169 cases with myoma uteri, 20 with prolapsus uteri, and 104 with benign ovarian cyst), who were hospitalized for receiving surgical treatment, were analyzed with HADS.

The HADS anxiety score was significantly higher in the benign ovarian cyst group than in the myoma uteri group. The percentage of anxious or depressed patients was also significantly higher in the former group. No significant differences were found between surgical procedures. However, some of 14 items of HADS shows significantly higher scores in patients treated by abdominal total hysterectomy than myomectomy, open surgery than laparoscopic surgery, or cystectomy than adnexectomy.

These results indicate that the mental impact varies depending on type of disease and procedure. In particular, type of disease seems to have greater impact.

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Key words: HADS, Mental health, Anxiety, Depression, Benign gynecological disease

Introduction

Becoming sick and facing surgery cause stress to the individual and thus affect one’s mental health. As the proverb says “the mind rules the body” and “care will kill a cat”, it takes both physical and psychological care to deal with a sick individual13. We previously reported that hospitalization for gynecological diseases can affect the mental health of the patient even though the disease is benign. Furthermore, both the degree of anxiety and depression are significantly elevated in patients with malignant gynecological diseases, and the degree of anxiety is only significantly elevated in patients with benign gynecological diseases2. However, it is not known whether the impact of gynecological diseases on women’s mental health differs with the type of disease and/or scheduled surgery. To study this relationship concerning benign diseases and to obtain useful data for providing adequate mental health care to women with these diseases, we conducted this study. Using the HADS (Hospital Anxiety and Depression Scale)3, a simple self-entry questionnaire that provides data concerning anxiety and depression, which are major factors in mental health, we analyzed the impact of each type of disease and scheduled surgery on the mental health of the respondents.

Subjects and Methods

The subjects of this study were 293 women...
Impact on mental health

Table 1 Clinical profile of the subjects

<table>
<thead>
<tr>
<th>Patients</th>
<th>N</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myoma uteri</td>
<td>169</td>
<td>41.3 ± 7.9</td>
</tr>
<tr>
<td>Prolapsus uteri</td>
<td>20</td>
<td>60.6 ± 9.4</td>
</tr>
<tr>
<td>Benign ovarian cyst</td>
<td>104</td>
<td>39.3 ± 14.6</td>
</tr>
</tbody>
</table>

(mean ± SD)  

Table 2 The HADS questionnaire

1. I feel tense or ‘wound up’.  
2. I still enjoy the things I used to enjoy.  
3. I get a sort of frightened feeling as if something awful is about to happen.  
4. I can laugh and see the funny side of things.  
5. Worrying thoughts go through my mind.  
6. I feel cheerful.  
7. I can sit at ease and feel relaxed.  
8. I feel as if I am showed down.  
9. I get a sort of frightened feeling like ‘butterflies’ in the stomach.  
10. I have lost interest in my appearance.  
11. I feel restless as if I have to be on the move.  
12. I look forward with enjoyment to things.  
13. I get sudden feeling of panic.  
14. I can enjoy a good book or radio or TV programme.

Responses from 293 patients, provided by the anonymous self-entry method on the Japanese version of the HADS survey within the prescribed period, were subjected to analysis. The HADS is a self-entry questionnaire, composed of 14 questions, developed originally in 1983 by Zigmond and Snaith (Table 2), and translated into Japanese by Kitamura9. This is made up of two scales: odd-numbered questions pertain to anxiety and even-numbered questions pertain to depression. For each question, the response is evaluated using the 4-point scale (0 to 3). For each of the two scales, anxiety and depression, the total possible score ranges from 0 to a maximum of 21. Higher scores indicate more elevated levels of anxiety or depression. For each scale, cases with a total score of 0–7 are rated as non-affected cases, 8–10 as doubtful cases and 11–21 as definitive cases. The validity of the HADS has already been demonstrated9. It is even said that the HADS is significantly more useful than examination by non-psychiatric physicians as a means of diagnosing anxiety and depression6. All subjects of this study were informed their diagnosis and the surgical procedure during their visit to the outpatient clinic. They filled out the questionnaire within 3 days after admission and before surgery.

StatView-J version 5.0 (SAS Institute, Inc., USA) was used to calculate the coefficient of correlation (r). The unpaired t-test, chi-square test and Mann-Whitney U test were also used for statistical analysis of the data. P < 0.05 was regarded statistically significant.

Results

1. Comparison of HADS scores among benign diseases

Table 3 shows the HADS total score, anxiety score and depression score for each disease

(AGE: 41.9 ± 12.0 years) who were admitted to the Department of Gynecology, Tokyo Women’s Medical University Hospital between September 2000 and February 2002 to receive surgical treatment of benign gynecological diseases: myoma uteri, prolapsus uteri or benign ovarian cyst. Patients having a history of treatment at departments of psychiatry or psychosomatic medicine were excluded from the study. Patients’ background variables are shown in Table 1. The average age of the prolapsus uteri group was significantly older than that of the myoma uteri or benign ovarian cyst group (p < 0.01).
The HADS anxiety score was significantly higher in the benign ovarian cyst group than in the myoma uteri group. In terms of the total and depression score, there was no significant differences. The scores in the prolapsus uteri group indicated low in general, although none of them differed significantly from any other disease group.

Fig. 1 shows the percentage of cases rated as non-affected, doubtful or definitive in terms of anxiety and depression scores in each group. The percentage of patients who were rated as definitively affected cases in terms of anxiety or depression score was 8.3%, 5.0% and 16.3% in myoma uteri, prolapsus uteri and benign ovarian cyst, respectively. When tested by chi-square test, this percentage in the benign ovarian cyst group was significantly higher than that in the myoma uteri group. The percentage of definitive cases as rated on the basis of anxiety score did not differ between any two disease groups. On the other hand, the percentage of definitively affected cases in terms of depression score was significantly higher in the benign ovarian cyst group than in the myoma uteri group.

When analyzed by item, only the score for the question "I feel tense or 'wound up'". which is pertaining to anxiety, was significantly higher in the benign ovarian cyst group as compared to the myoma uteri group by Mann-Whitney U test.

The coefficient of correlation between anxiety and depression scores was 0.554 for the entire population, 0.550 for the myoma uteri group, 0.629 for the prolapsus uteri group and 0.534 for the benign ovarian cyst group.

2. Comparison of HADS scores by surgical procedures

As shown in Table 4, when patients with myoma uteri were analyzed by surgical proce-
Table 5  HADS scores by surgical procedure for patients with benign ovarian cyst

<table>
<thead>
<tr>
<th></th>
<th>Anxiety</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Open surgery</td>
<td>Laparoscopic surgery</td>
</tr>
<tr>
<td>n</td>
<td>91</td>
<td>13</td>
</tr>
<tr>
<td>Age</td>
<td>39.9 ± 15.2</td>
<td>35.4 ± 9.0</td>
</tr>
<tr>
<td>Non-affected cases</td>
<td>67.0(%)</td>
<td>84.6(%)</td>
</tr>
<tr>
<td>Doubtful cases</td>
<td>19.8</td>
<td>15.4</td>
</tr>
<tr>
<td>Definitive cases</td>
<td>13.2</td>
<td>0.0</td>
</tr>
</tbody>
</table>

* : p < 0.005

dure, neither the percentage of definitive cases nor that of doubtful cases differed significantly between the abdominal total hysterectomy (ATH) group and the myomectomy group. According to the analysis by item, the score of the response to the question "I feel as if I am showed down" or "I can enjoy a good book or radio or TV programme" was significantly higher in the ATH group. The coefficient of correlation between anxiety and depression scores in the ATH and in myomectomy groups was 0.526 and 0.578, respectively.

Table 5 shows the data by surgical procedure for patients with benign ovarian cyst. Anxiety and depression seemed to be severer in the open surgery group than in the laparoscopic surgery group, although the difference was not significant. When analyzed by item, the score of the response to the question "I feel as if I am showed down", which is pertaining to depression, was significantly higher in the open surgery group. The coefficient of correlation between anxiety and depression scores was 0.528 in the open surgery group and 0.464 in the laparoscopic surgery group. When compared between the adnexectomy group and the cystectomy group, the percentage of possibly or definitively affected cases in terms of anxiety scores was higher in the cystectomy group, although the difference was not significant. The score for the question "worrying thoughts go through my mind", which is pertaining to anxiety, was significantly higher in the cystectomy group than in the adnexectomy group (p = 0.0061). The coefficient of correlation between anxiety and depression scores was 0.456 and 0.644 in these two groups, respectively.

Discussion

Previous studies of the effects on mental health of getting sick were conducted primarily on patients with cancer, and few such studies have been performed concerning patients with benign diseases. However, Duits, et al. reported that preoperative anxiety and depression predicted postoperative psychological maladjustment7), and it has been suggested that preoperative mental state can affect immune function8). It therefore seems useful to evaluate the preoperative mental health of patients scheduled for surgery to treat benign diseases and to support their mental condition appropriately9). We previously reported that even benign gynecological diseases can affect the mental health of patients, primarily through inducing anxiety10). To date, however, it is not known how the effects on mental health of
benign gynecological diseases would vary depending on the type of disease or the surgical procedure scheduled. The present study was undertaken to examine the preoperative mental status of patients admitted to receive gynecological surgery, with the goal of evaluating the impact of benign gynecological diseases on mental health and obtaining data that would be useful for safeguarding the mental health of patients.

Among many methods available for evaluating aspects of mental health, the HADS was designed to be used to evaluate anxiety and depression among patients with physical symptoms. This questionnaire is simpler than other psychological tests; it is composed of only 14 questions and it takes little time to complete. Thus, the HADS causes less stress on the patient than many other evaluative techniques. Many studies have shown that this test is accepted by almost 100% of patients. The validity of the HADS has already been demonstrated and the sensitivity and specificity of the HADS for detecting anxiety and depression that need psychiatric treatment was 0.8 or higher. It has also been reported that the HADS is useful for checking the preoperative anxiety of individual patients. We therefore used the HADS to evaluate the mental health of patients preoperatively.

In the present study, the average age of the prolapsus uteri group was higher than that of the other disease groups. We have, however, confirmed that age does not greatly affect the HADS scores among healthy individuals.

When HADS scores were analyzed in relation to the type of gynecological disease, the anxiety score was significantly higher for the ovarian cyst group than for the myoma uteri group. This is probably because myoma uteri is a commonly well-known disease to the general public. That is, the fear was probably due to the particular image held by people concerning myoma uteri. Ovarian cysts, on the other hand, seem to be rare and little-known, and so the score for the question "Worried thoughts go through my mind" was high among patients with this disease. In cases where a diagnosis of myoma uteri is made before surgery, it is quite few that the diagnosis will be postoperatively corrected to specify a malignant disease, i.e., sarcoma. However, in cases where a diagnosis of ovarian cyst is made preoperatively, we cannot rule out until the end of surgery that the cyst is malignant. These facts seem to be associated with the above-mentioned differences in scores between different disease groups. The fact that the percentage of definitively affected cases in terms of depression score was significantly higher in the benign ovarian cyst group than in the myoma uteri group supports this idea. The difference may also be associated with the fact that although patients with myoma uteri often have subjective symptoms, such as hypermenorrhea and algomenorrhea, ovarian cyst is often detected accidentally and is not frequently accompanied by subjectively experienced symptoms. In any event, these results indicate greater necessity for adequate psychological care for patients with ovarian cyst than for patients with other benign gynecological diseases.

In the present study, anxiety was found to correlate moderately with depression, in line with the non-clinical sample data (r = 0.53) reported by Crawford, et al. The results of another study of 32 preoperative patients with malignant disease in which anxiety correlated closely with depression (r = 0.709; data not shown) make a good contrast to the finding in the present study that anxiety is a predominant mental health status aspect of patients with benign gynecological diseases.

When patients with myoma uteri were analyzed by surgical procedure, the total score did not differ markedly between the ATH group and
the myomectomy group, while the scores for some depression-related questions were markedly higher for the ATH group. Generally, hysterectomy is more likely to cause psychosomatic problems than other surgical procedures, such as cholecystectomy. It can also induce psychiatric symptoms, which Richards reported as post-hysterectomy syndrome [14]. Furthermore, the average age of patients undergoing myomectomy differs significantly from that of patients undergoing other operations. It seems possible that this is related to the likelihood that patients undergoing myomectomy desire to bear children in the future. Thornton, et al. reported that of all patients scheduled for ATH, 54% had anxiety and 26% had depression preoperatively [15]. On our study, the percentage of doubtful or definitive cases was lower: 32% for anxiety and 14% for depression. Although a correlation between preoperative degrees of depression and anxiety was reported for patients scheduled for ATH [16], the correlation was not marked in this study. Further study may reveal whether or not these discrepancies are associated with race and religion or are attributable to differences in the cohorts studied.

Among all patients with ovarian cyst, those scheduled for laparoscopic surgery had lower degrees of anxiety and depression, as compared with those scheduled for open surgery. One possible reason for this difference is that patients tend to underestimate the risk of operation if they are informed of the low stress of laparoscopic surgery and the possibility of early discharge. On the other hand, some investigators have reported that laparoscopic surgery is more stressful to the surgeon than is open surgery [17]. This report is interesting, when it comes to selecting surgical procedures. When adnexectomy was compared with cystectomy, the patients perceived the latter to be more stressful. One possible reason for this difference is that patients are informed of the possibility of adnexectomy before cystectomy is selected. Since the average age of the cystectomy group was significantly younger, it seems likely that patients scheduled for cystectomy tend to be preoccupied not only by fear of the scheduled surgery but also of what will come after that surgery. Cystectomy is often designed to correct sterility while preserving the ovaries and this feature of cystectomy may be another reason for the higher stress experienced by the patients in contrast with myomectomy. This issue might be clarified by a future study comparing pre- and postoperative data.

In this study, patients with prolapsus uteri showed no significant differences. We can not argue that this is due to age or sample size. Further investigation will be necessary.

Although this study is a preliminary one, its results suggest that even patients with benign gynecological diseases experience psychological stress before surgery, and that the impact of that stress on their mental health varies depending particularly on the type of diseases and also on the technique of surgery scheduled. Preoperative evaluation of the patient’ s mental health using the HADS and providing supports on the basis of such an evaluation will contribute to facilitating postoperative patient recovery and increasing the mental satisfaction and physical well-being of the patient. It is now desirable to accumulate data from more cases and to devise an appropriate method of intervention.

Acknowledgments

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References

1) Turus D : Psychosocial issues : pelvic exentera-
婦人科良性疾患がメンタルヘルスに及ぼすインパクトに関する検討

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高松 潔1) 藤井絵里子1) 太田 博明2)

婦人科疾患による入院は良性疾患であってもメンタルヘルスに影響を与えるが、疾患の種類、予定手術の違いによるインパクトの差異はいまだ明らかではない。そこで今回我々は、メンタルヘルスにおいて重要な因子である不安と抑うつを評価することができる簡便な自己記入式質問紙であるHADS（Hospital Anxiety and Depression Scale）を用いて疾患、予定手術別にスコアの差違を示す検討を実施した。

対象は、婦人科良性疾患に対する手術目的で婦人科病棟に入院した293名（41.9±12.0歳）である。疾患の内訳は子宮筋腫169名、子宮脱20名、卵巢囊腫104名であった。これに対し、入院後3日以内にHADS日本語版に記名、自記式にて回答が得られたものを解析した。

卵巢囊腫群では子宮筋腫群に比較してHADS不安度のスコアが有意（p<0.05）に高値であり、不安あるいは抑うつ状態にあると考えられる割合も有意に高かった。一方、子宮脱群の総スコア、不安度、抑うつ度のスコアは卵巢囊腫群、子宮筋腫群よりも低値であったが、有意差は認めなかった。また、3群とも不安度と抑うつ度の間には中等度の相関が認められた。

術式別の検討では、子宮筋腫群における子宮全摘出術と筋腫核出術、卵巢囊腫群における開腹術と腹腔鏡下手術、付属器切除術と囊腫摘出術の比較においては総スコア、不安度、抑うつ度に有意差を認めなかった。しかし、HADSの14項目のうち子宮全摘出術、開腹術、囊腫摘出術の方が有意に高いスコアを示す項目が存在した。

今回の中検討により、良性疾患であっても術前に心理的ストレスがあること、またそのストレスは疾患の種類と予定術式によりメンタルヘルスに与えるインパクトが異なることが明らかとなった。特にインパクトの差違は疾患の種類による影響が大きいことが示唆された。