Irritable bowel syndrome in women undergoing hysterectomy and tubular ligation

Manouchehr Khoshbaten¹, Manigheh Syah Melli², Monireh Jabar Fattahi², Nasrin Sharifi³, Seyed Abolfazl Mostafavi⁴, Mohamad Amin Pourhoseingholi⁴

¹ Liver and Gastrointestinal Diseases Research Center, Tabriz University of Medical Sciences, Tabriz, Iran
² Tabriz University of Medical Sciences, Tabriz, Iran
³ Ahwaz Jondishapour University of Medical Sciences, Ahwaz, Iran
⁴ Biostatistics Department, Shahid Beheshti University of Medical Sciences, Tehran, Iran

ABSTRACT

Aim: The aim of this study was to assess the incidence of irritable bowel syndrome in women undergoing hysterectomy and tubular ligation.

Background: The results of previous studies have shown an increased incidence of irritable bowel syndrome after gynecological surgeries.

Patients and methods: Participants were patients of Alzahra and Taleghani University hospitals in Tabriz. One hundred and seventy two women without gastrointestinal symptoms or a diagnosis of the irritable bowel syndrome underwent tubular ligation and 164 women underwent hysterectomy. Patients were assessed every 3 month after hysterectomy and tubular ligation for 12 months. Irritable bowel syndrome was diagnosed by a questionnaire based on Rome II criteria.

Results: During 12 months after surgeries, 19 (11%) patients in tubular ligation group and 19 (11%) in hysterectomy group had abdominal pain with at least two symptoms of irritable bowel syndrome. Irritable bowel syndrome was diagnosed in 9 (5%) patients in the tubular ligation and 13 (8%) patients in hysterectomy groups (P>0.05). In both studied groups, the most prevalent symptoms along with abdominal pain were chronic constipation and abnormal bowel movement and the least prevalent were diarrhea and passage of mucus.

Conclusion: These results suggest that gynecological surgeries (tubular ligation and hysterectomy) may predispose to the development of the irritable bowel syndrome.

Keywords: Hysterectomy, Tubular Ligation, Irritable Bowel Syndrome.

Introduction

Functional bowel disorders (FBD), including the irritable bowel syndrome (IBS) are now recognized as common chronic bowel disorders that affect between 5 to 25 percent of populations (1-5). Of all FBDs, IBS has received the most attention, in part due to its high prevalence (3–25%) of adult sample populations in published series (6-8). There are similar prevalences for IBS across Western countries, but the prevalence may be lower in Asian countries and in African Americans; however, there is a wide variation, even within individual countries (7-10). In Iran, the prevalence of IBS was reported as 5.8% in the general population and 3-18.4% in specific Iranian populations (11-14). IBS can develop

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Reprint or Correspondence: Mohamad Amin Pourhoseingholi, PhD. Biostatistics Department, Shahid Beheshti University of Medical Sciences, Tehran, Iran
E-mail: Amin_phg@yahoo.com
psychological stress or bacterial enteritis that causes injury to the bowel mucosa.

Due to an absence of any certain diagnostic clinical or paraclinical tests for this category of diseases (15) the diagnosis relies on criteria that have almost unanimous consensus (15-18).

Surgery can cause postoperative pain. This pain may be accompanied by a reduced threshold for experiencing pain and an exaggerated pain response. Certain factors can predispose to prolonged and exaggerated post-operative pain, these include; the site and duration of surgery and the emotional well-being of the patient (19).

It is not known if abdominal pain or IBS results from gynecological surgery secondary to iatrogenic injury to abdominopelvic nerves (20). However, the degree to which afferent injury resulting from surgery or central amplification due to psychosocial distress is operative is not completely clear.

A potential model to test this question would be to prospectively evaluate patients undergoing a surgical procedure. So the aim of this study was to assess the incidence of pain or IBS in women undergoing hysterectomy or tubal ligation (TL).

**Patients and Methods**

It is a prospective study on 164 patients undergoing hysterectomy and 172 patients undergoing TL who were randomly selected in Alzahra hospital and Taleghani hospital, Tabriz, Iran from 2008 to 2009.

Exclusion criteria included fulfillment of the Rome II criteria for painful functional gastrointestinal disorders including IBS or the presence of abdominal or pelvic pain; chronic diarrhea or constipation (requiring regular anti-diarrheal) or laxative treatment, chronic pancreatitis, serious chronic co-morbidity including malignancy.

All women undergoing hysterectomy and TL were followed for 12 months and screened for IBS based on the standardized questionnaire.

All women were screened at 3 time points (each 3 months in one year after surgery) using standardized questionnaires to diagnose painful functional gastrointestinal disorders, including IBS, by Rome II criteria. Demographic and clinical factors were also collected. Statistical analysis performed by contingency tables and Chi-square test.

**Results**

A total of 336 women entered to this study, 164 patients undergoing hysterectomy and 172 patients undergoing TL (6 patients from hysterectomy group have been excluded).

| symptom                        | TL (Number/Percent) | Hysterectomy (Number/Percent) |
|--------------------------------|---------------------|-------------------------------|
| Abdominal pain                 | 55(32)†             | 69(42.1)                      |
| chronic Diarrhea               | 2(1.2)              | 6(3.7)                        |
| chronic constipation           | 29(16.9)            | 33(20.1)                      |
| Abnormal bowel movement        | 16(3.9)             | 32(19.5)                      |
| Mucus excretion                | 2(1.2)              | 4(2.4)                        |
| Intermittent diarrhea or constipation | 13(7.6)          | 17(10.4)                      |
| Lactose intolerance            | 12(7)               | 14(8.5)                       |
| Thyroid Disorder               | 5(2.9)              | 10(6.1)                       |
| Laxative Taking                | 10(5.8)             | 5(3)                          |
| Psychoactive Drug Abuse        | 11(6.4)             | 9(5.5)                        |
| Other Drugs                    | 0                   | 2(1.2)                        |

|             | TL         | Hysterectomy |
|-------------|------------|--------------|
| Abdominal pain | 55(32)†   | 69(42.1)     |
| chronic Diarrhea | 2(1.2)    | 6(3.7)       |
| chronic constipation | 29(16.9)  | 33(20.1)     |
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| Psychoactive Drug Abuse | 11(6.4) | 9(5.5)       |
| Other Drugs        | 0         | 2(1.2)       |

*IBS: irritable bowel syndrome, TL: tubal ligation; †Number (Percent)*

The mean age of patients underwent TL was 37.85± 5 years and the mean age of patients in hysterectomy group was 47.14 ± 6.57 years. During 12 months after surgeries, 19 (11%) patients in TL group and 19 (11%) in
hysterectomy group had abdominal pain (>12 weeks) with at least two symptoms of IBS. IBS was confirmed in 9 (5%) patients of TL and 13 (8%) patients of hysterectomy group (P>0.05). The percent of symptoms associated with IBS appeared in Table 1. In both studied groups, the most prevalent symptoms along with abdominal pain were chronic constipation and abnormal bowel movement and the least prevalent were diarrhea and passage of mucus. There were not any significant differences in prevalence of symptoms among IBS positive patients between TL and hysterectomy group. Also the distribution of abdominal pain with or without other symptoms of IBS was indicated in Table 2.

Table 2. Abdominal pain with or without other symptoms of IBS

|                | TL       | Hysterectomy |
|----------------|----------|--------------|
| Without abdominal pain | 114(66.3) | 84(51.2)     |
| Only abdominal pain without other symptoms | 36(20.9) | 50(30.5)     |
| Other symptoms without abdominal pain | 3(1.7)   | 11(6.7)      |
| Having abdominal pain with at least two symptoms of IBS | 19(11)   | 19(11.6)     |

IBS: irritable bowel syndrome, TL: tubal ligation; *Number (Percent)

Discussion

According to a new population based study in Iran, the prevalence of IBS was estimated to be low (21, 22). So the result of this study indicates that the high incidence of abdominal pain and IBS symptoms that develops within 12 months of gynecologic surgery.

Surgery can cause postoperative pain, a unique entity with specific physiologic and clinical features (19) and patients with irritable bowel syndrome (IBS) have high surgical rates (23). It is known that many women with irritable bowel syndrome (IBS) have had a hysterectomy; possible explanations include misdiagnosis of IBS resulting in hysterectomy, IBS symptoms occurring as a result of hysterectomy, a single underlying disorder which produces symptoms in both gastrointestinal and genitourinary tracts, or a combination of these factors (24).

Similar study showed that constipation and pain subtype IBS were more common in hysterectomy patients (23).

In contrast, a prospective study among women undergoing gynecological for non-pain indications the development of IBS was not significantly greater than controls. (20).

A limitation of this study is that we did not compare the surgical group with non-surgical healthy control. So it is recommended to do similar prospective study, using a carefully selected control group. In conclusion, these results suggested that gynecological surgeries (TL and hysterectomy) could facilitate IBS.

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