

Irritable bowel syndrome in women undergoing hysterectomy and tubular ligation

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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 months 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.

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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,

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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 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).

Table1. Frequency of symptoms associated with IBS in women undergoing hysterectomy and TL *

	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)
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)

*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.

References

1. Drossman DA, Camilleri M, Mayer EA, Whitehead WE. AGA technical review on irritable bowel syndrome. *Gastroenterology* 2002; 123: 2108–31.
2. Drossman DA, Li Z, Andruzzi E, Temple RD, Talley NJ, Thompson WG, et al. U.S. householder survey of functional gastrointestinal disorders: Prevalence, sociodemography and health impact. *Dig Dis Sci* 1993; 38: 1569–80.
3. Longstreth GF. Irritable bowel syndrome—A multibilliondollar problem. *Gastroenterology* 1995; 109:2029–31.
4. Safaee A, Moghimi-Dehkordi B, Pourhoseingholi MA, Vahedi M, Habibi M, Pourhoseingholi A. Bloating in irritable bowel syndrome. *Gastroenterol Hepatol Bed Bench* 2011; 4:86–90
5. Talley NJ, Zinsmeister AR, Van Dyke C, Melton LJ 3rd. Epidemiology of colonic symptoms and the irritable bowel syndrome. *Gastroenterology* 1991; 101:927–34.

6. Chang L. Review article: epidemiology and quality of life in functional gastrointestinal disorders. *Aliment Pharmacol Ther* 2004; 7:31-39.
7. Delvaux M. Functional bowel disorders and irritable bowel syndrome in Europe. *Aliment Pharmacol Ther* 2003; 18 Suppl 3:75-79.
8. Kang JY. Systematic review: the influence of geography and ethnicity in irritable bowel syndrome. *Aliment Pharmacol Ther* 2005; 21:663-76.
9. Drossman, DA. The Functional Gastrointestinal Disorders and the Rome III Process. *Gastroenterology* 2006; 130:1377-90.
10. Chang FY, Lu CL. Irritable bowel syndrome in the 21st century: Perspectives from Asia or South-east Asia. *J Gastroenterol Hepatol* 2007; 22:4-12.
11. Roshandel D, Rezailashkajani M, Shafae S, Zali MR. Symptom patterns and relative distribution of functional bowel disorders in 1,023 gastroenterology patients in Iran. *Int J Colorectal Dis* 2006; 21:814-25.
12. Hoseini-Asl MK, Amra B. Prevalence of irritable bowel syndrome in Shahrekord, Iran. *Indian J Gastroenterol* 2003; 22:215-16.
13. Ghannadi K, Emami R, Bashashati M, Tarrahi MJ, Attarian S. Irritable bowel syndrome: an epidemiological study from the west of Iran. *Indian J Gastroenterol* 2005; 24:225-26.
14. Massarrat S, Saberi-Firoozi M, Soleimani A, Himmelmann GW, Hitzges M, Keshavarz H. Peptic ulcer disease, irritable bowel syndrome and constipation in two populations in Iran. *Eur J Gastroenterol Hepatol* 1995; 7:427-33.
15. Thompson WG, Heaton KW, Smyth GT, Smyth C. Irritable bowel syndrome in general practice: prevalence, characteristics, and referral. *Gut* 2000; 46: 78-82.
16. Thompson WG, Dotevall G, Drossman DA. Irritable bowel syndrome: Guidelines for the diagnosis. *Gastroenterol Int* 1989; 2:92-95.
17. Drossman DA, Corazziari E, Talley NJ, Heaton KW, Whitehead WE, Thompson WG. Rome II: a multinational consensus document on functional gastrointestinal disorders. *Gut* 1999; 45 (suppl II):1-81
18. Thompson WG, Longstreth G, Drossman DA, Heaton KW, Irvine EJ, Müller-Lissner SA. Functional bowel disorders and functional abdominal pain. *Gut* 1999; 45 (suppl II):43-7.
19. Bonica JJ. Current status of postoperative pain therapy. In: Yokota T, Dubner R, eds. *Current topics in pain research and therapy*. Amsterdam, The Netherlands: Excerpta Medica 1983; 169.
20. Sperber AD, Morris CB, Greenberg L, Bangdiwala SI, Goldstein D, Sheiner E, et al. Development of abdominal pain and IBS following gynecological surgery: a prospective, controlled study. *Gastroenterology*. 2008; 134:75-84.
21. Khoshkrood-Mansoori B, Pourhoseingholi MA, Safae A, Moghimi-Dehkordi B, Sedigh-Tonekaboni B, Pourhoseingholi A, et al. Irritable bowel syndrome: a population based study. *J Gastrointestin Liver Dis* 2009; 18:413-18.
22. Sorouri M, Pourhoseingholi MA, Vahedi M, Safae A, Moghimi-Dehkordi B, Pourhoseingholi A, et al. Functional bowel disorders in Iranian population using Rome III criteria. *Saudi J Gastroenterol* 2010;16:154-60.
23. Longstreth GF, Yao JF. Irritable bowel syndrome and surgery: a multivariable analysis. *Gastroenterology* 2004; 126:1665-73.
24. Kennedy TM, Jones RH. The epidemiology of hysterectomy and irritable bowel syndrome in a UK population. *Int J Clin Pract* 2000; 54:647-50.