

Trends in Hysterectomy for Pelvic Inflammatory Disease - Experience From Low Resource Settings

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Authors' contributions

This work was carried out in collaboration between all authors. Author SC designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors YY and SM managed the analyses of the study. Author MP managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Background: Genital infections are increasing. So more women are likely to have sequelae, which sometimes leads to hysterectomy. Continuous research is essential to prevent sequelae and morbidities related to therapy for sequelae.

Objective: Present study was done to find out trends of hysterectomies for pelvic inflammatory disease (PID) in women of a low resource region.

Methods: Case records of abdominal hysterectomy with salpingo oophorectomy performed either for PID as only indication or PID as major problem with other benign gynaecological disorders, were analyzed. During study period of two decades from January 1989 to 2008 December, 4829 women had undergone abdominal hysterectomy with salpingo-oophorectomy, 2984 done for

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benign gynaecological disorders including PID, 251 (8.4%) women had hysterectomy only for PID and 512 (17.15%) for PID with other disorders, but main indication was PID, making 763 (25.57%) study subjects. These Cases were mostly peri or post menopausal women.

Results: In first half of analysis (over 10 years) 4.35% women had abdominal hysterectomy only for PID compared to 6.65% in second half, PID with other gynaecological disorders was the indication in 11.5% cases in first half and 38.5% in second half, trends increasing significantly in both groups.

Conclusion: Hysterectomies for PID are increasing. So it is essential to prevent, treat timely, appropriately, so that such sequelae do not occur.

Keywords: Pelvic inflammatory disease; treatment; hysterectomy, trends.

1. BACKGROUND

Pelvic inflammatory disease (PID) is a major health problem in developed as well as developing countries of the world [1]. PID is usually a clinical diagnosis, characterized by infection and inflammation of the upper genital tract in women and can cause significant reproductive health sequelae [2]. It is generally treated with antibiotics, but if the symptoms persist, surgical intervention like drainage of pus (not common) may be needed. Most of the patients respond to conservative treatments. However, some women continue to have significant symptoms and curative surgery may be necessary, especially in perimenopausal or postmenopausal age. Hysterectomy with bilateral salpingo-oophorectomy, a major procedure is sometimes done to relieve symptoms. So continuous research is essential. Even in United States, it is estimated that approximately 4.2% of women who report with PID are being treated surgically in their lifetime [3]. PID is one of the most common serious infections of non pregnant women of reproductive age. Management of PID is directed at containment of infection [4]. Since sexually transmitted diseases (STDs) are increasing, it is likely that more and more women will have sequelae [5]. As such, complications of PID, such as chronic pelvic pain and scarring are difficult to treat. PID hence can be said to be a very serious complication of STDs which should be critically and promptly handled by healthcare providers [1].

The objective of the present study was to find the trends of hysterectomies for PID over the last 20 years.

2. MATERIALS AND METHODS

The present analytical study of the trends in hysterectomy for PID was carried out at a rural

referral health care educational institute in eastern part of Maharashtra province of India. Case records of women undergoing hysterectomy for PID or PID with other benign gynaecological diseases like small uterine fibroids or myohyperplasia, but PID as the main reason for the hysterectomy, were analyzed. The study included cases operated over last 20 years. Cases were divided in five yearly blocks. During the study period 4829 women underwent hysterectomy. Of the retrospective cases, of 10 years (from 1989-1998) 1818 (75%) case records could be obtained out of the 2424 hysterectomies performed. In the prospective period, 2405 cases were performed. So the records of 4223 cases were available. Hysterectomies for benign conditions, including PID were 2984. The clinical definition, patients symptoms, clinical examination findings, macroscopic findings during surgery and histology data from lab postoperatively were obtained for identifying a case of PID. Information collected and recorded for all the cases whether retrospective or prospective was same so all the cases were analysed together after dividing in 4 blocks to know change if any in trends.

3. RESULTS

Of the 2984 cases of hysterectomy for benign gynaecological disorders, in 251 (8.4%) PID was the only indication, PID with other benign disorders with PID as the main reason for hysterectomy was present in 512 (17.15%), so 763 (25.57%) cases were included, study subjects, divided in 5 yearly four blocks. In Block A, 34 (4.4%) of the total 369 women operated in that Block, in Block B, 142 (18.6%) of the 496, in Block C 279 (36.6%) out of 855 and in Block D 308 (40.4%) of 1264 operated were for either PID or PID with other disorders. Overall in the first half of analysis over 10 years, 4.35% women had hysterectomy only

for PID compared to 6.65% in second half (Fig. 1).

PID with other gynaecological disorders was the indication in 11.5% in first 10 years and 38.5% in second half of analysis i.e last 10years, trends increased significantly (P value <0.001).

Of all the 384 women who had hysterectomy at around 35 years of age, only 3 (0.7%) had it for PID. Of the 1596 women who had hysterectomy between 36-49 years, a total of 233 (14.6%) had only for PID and 222 (13.9%) had PID as the major disorder with other disorders. In Block A52 (11.11%) women, in Block B71 (15.1%), in Block C168 (35.89%) and in Block D, 177 (37.82%) women had parity between 2-4 (Table 1, Fig. 2).

4. DISCUSSION

Lower genital infections are increasing, with a rise in PID, the sequelae are also increasing. The consequences of silent STDs could be long term and severe. It is reported that at least one in four women with PID experience one or more serious effects including ectopic pregnancy, infertility, recurrent infection and chronic abdominal pain [5]. Centres for disease control and prevention (CDC, 2009) reports that 25% of women with a single episode of symptomatic PID will experience sequelae and silent disease [6].

The diagnosis of PID is based on lower abdominal pain, backache, menstrual disorders with adnexal masses or tenderness. Fever may occur during acute phase. However, in 60% of times PID is silent [7]. In the pelvis, inflammation could be present at any point with a continuum from cervicitis, endometritis, salpingitis, oophritis and peritonitis. It is usually caused by micro-organisms colonizing in the endocervix which ascend into uterus, fallopian tubes and ovaries. Finally the women undergo hysterectomy for the sequelae. However, according to hysterectomy guidelines made by Society of Obstetricians and Gynecologists of Canada in 2002, one should carefully investigate pelvic pain, believed to be because of chronic PID prior to considering a hysterectomy. Investigations should include not only a careful gynaecological examination, pelvic ultrasound, but evaluation of urinary, gastrointestinal, and musculoskeletal system [7]. The treatment needs to be individualized depending upon the age, parity, symptoms and signs. Years back, Lee et al. [8] had reported PID contributing to 5% of hysterectomies. Porkras and Hafnagel et al. [9] have reported 13.4% cases and Treloar et al. [10] reported 6.3% of hysterectomies for PID. In the present analysis it was revealed that there is a significant increase from first 10 years, 8.4% to 17.15% in recent 10 years of analysis (P value <0.001) in last two decades.

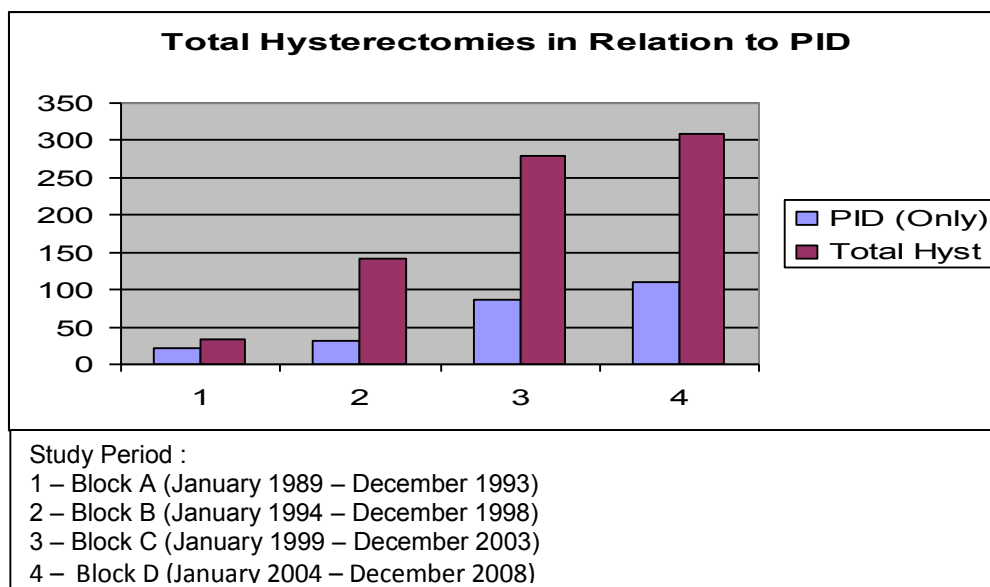


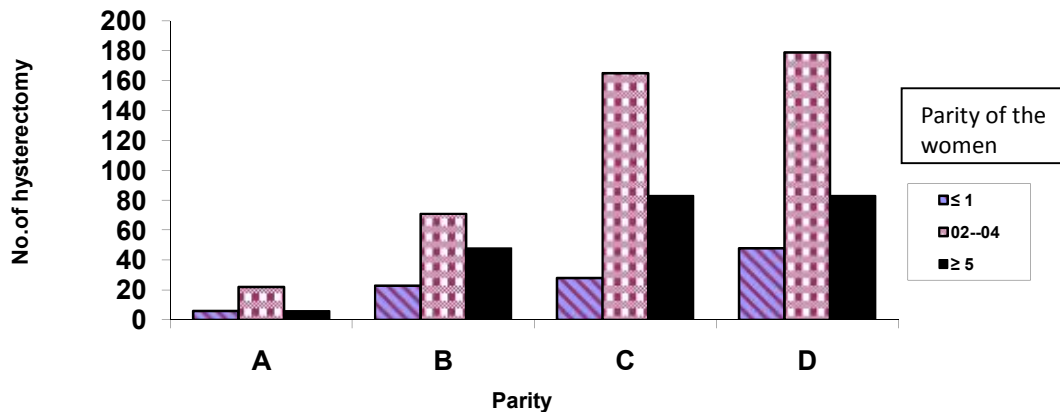
Fig. 1. Total hysterectomies for PID in relation to hysterectomy for benign diseases

Table 1. Age/parity and hysterectomies for PID

Age	Parity	Block A(369)		Block B (496)		Block C (855)		Block D (1264)		Total (A+B+C+D)
		PID	PID with Gyn Dis	PID	PID with Gyn Dis	PID	PID with Gyn Dis	PID	PID with Gyn Dis	
≤ 35 384	2-4	-	-	-	-	-	3	-	-	3
36-49 1596	0-1	2	-	7	5	3	12	12	18	59
	2-4	11	-	16	5	47	62	78	50	269
	≥ 5	6	-	6	15	26	12	19	40	124
50-64 766	0-1	-	4	-	10	2	11	-	18	45
	2-4	3	5	2	30	5	51	2	43	141
	≥5	-	-	1	24	3	42	-	24	94
≥65 238	0-1	-	-	-	1	-	-	-	-	1
	2-4	-	3	-	18	-	-	-	4	25
	≥5	-	-	-	2	-	-	-	-	2
Total		22	12	32	110	86	193	111	197	763

*PID- Pelvic Inflammatory Disease, Gyn Dis- Gynaecological Disorder

Hysterectomy for PID, Relation to parity



Study Period:
 A – Block A (January 1989 – December 1993)
 B – Block B (January 1994 – December 1998)
 C – Block C (January 1999 – December 2003)
 D – Block D (January 2004 – December 2008)

Fig. 2. Parity and Hysterectomy for PID

With the development of broad-spectrum antibiotics, PID even with tubo-ovarian abscesses (TOA) can generally be treated with antibiotics, but some women need surgery due to persistence of symptoms, with or without signs, especially women of pre and postmenopausal age. Carlson et al. [11] have reported that out of 418 women, in whom hysterectomy was performed for various non-malignant conditions, 18% had chronic pelvic

pain and after hysterectomy, there was significant reduction in symptoms and improvement in the quality of life.

In the present analysis, it was observed that between 36-49 years there were more hysterectomies, (14.5%) for PID. In higher age groups (>49 yrs) PID. was an associated factor with other gynaecological disorders, and in younger women there were very few cases.

Decision of any management strategy has to be made in a holistic way, after looking at the problem in totality, as it is the patient who needs to be treated, not the disease. The indication really doesn't matter to the woman as long as she has relief and has quality life. It is the scientist who has the knowledge of causes and possible therapies for the disease. Also in some situations, especially in rural women, poverty, lack of resources, ignorance, apathy and cultural issues have to be kept in mind for any decision. In this part women have to travel long distances and pass many visible and invisible obstacles to reach health facilities to get relief. After having suffered for a long time, they wish to be relieved of the symptoms. So the treating surgeon has to provide the information, counselling and individualized treatment for the best of outcome. However, for preventable illnesses one needs to think of modalities to tackle the problem, so that major interventions are not needed, which have their own problems.

5. CONCLUSION

Hysterectomies for PID are increasing, so it is essential to prevent genital infections and if they occur, to treat timely, appropriately, so that sequelae which need major surgeries do not occur.

CONSENT

All authors declare that 'written informed consent was obtained from the patient (or other approved parties) for publication of this study.

ETHICAL APPROVAL

"All authors hereby declare that all experiments have been examined and approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki."

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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