



ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

RISK FACTORS FOR VAGINAL PROLAPSE AFTER HYSTERECTOMY

KEY WORDS:

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ABSTRACT

Objective:- To identify risk factors for pelvic organ prolapse and their influence on the occurrence of vaginal prolapse after hysterectomy. **Methods:-** Medical records from 2 groups of women who had undergone hysterectomy were reviewed retrospectively. The study group of 82 women who had undergone surgery for vaginal prolapse i.e. hysterectomy, the control group was 124 women who had undergone hysterectomy with no diagnosis vaginal prolapse at the time of study. All hysterectomy procedures had been performed for benign gynaecological disease, including POP. Both groups of women completed a self-administered questionnaire to obtain additional information on the occurrence of POP. **Results:-** the incidences of vaginal prolapsed after hysterectomy was significantly higher in women with a higher number of vaginal deliveries, more difficult deliveries, fewer caesareans, complication after hysterectomy, heavy physical work, neurological disease, hysterectomy for pelvic organ prolapse and/or family history of pelvic organ prolapse. Premenopausal women had vaginal prolapse corrected an average of 16 years after hysterectomy, and postmenopausal women 7 years post hysterectomy. **Conclusion:-** Before deciding on hysterectomy as the approach to treat a women with pelvic floor dysfunction, the surgeon should evaluate these risk factors and discuss then with the patient.

INTRODUCTION

Pelvic organ prolapse (POP) and stress Urinary Incontinence (SUI) are worldwide problems that affect the quality of life of millions of women. Although mortality is rare due to this health issue, it has been shown that self perception of the body is significantly affected in those with symptoms. 50% of parous women have pelvic organ prolapse. The distribution of the severity of the contribution among general population has been studied, stage 1 & 2 prolapse in a population of 124 women greater than or equal to 18 years of age with a mean age of 44 years. These stages were defined as the distal end of the prolapse being > 1cm and <1 cm of the hymen during abdominal staining, respectively. A more progressive prolapse was noted in greater than 40 years of age with 22% being in the age group of greater than the age of 70, suggesting that age plays a role.

In women with prolapse uterus, paravaginal and uterosacral biopsies in women with POP and SUI, a significant reduction of type III collagen was noted compared to the other group.

An adjunct piece of evidence on the role of connective tissue lies in the study that observed greater frequency in abdominal hernias in those women with prolapse, again suggesting the importance of functional collagen in the prevention of these disorders. Chen et al concluded that this deficit is not due to a decreased.

Genetics: In addition to mouse models, genetic involvement has also been measured in vivo. This has been researched via twin and family population. Analysis of a group of women with a mean age of 44 years with stage 3-4 prolapse demonstrated a fivefold higher occurrence in members of their family. Inheritance of these families was of the dominant type with a high penetrance.

Ageing: In addition to genetics, age has been recognised as an intrinsic factor in the development of pelvic organ prolapse. It is thought that advancement in age is associated with higher rate of pelvic dysfunction. This is hypothesised to be secondary to a multitude of factors including the fall in estrogen during the postmenopausal period, as well as normal physiologic advances of the pelvic floor components. Swift et al supported this theory by showing an increase in the in the odds ratio for pelvic prolapse, greater rate of new pelvic

prolapse of approximately 3%. However a greater number of women in the spontaneous vaginal delivery population had a more severe prolapse with a difference amounting to 9%. Finally, no difference was noted on a two stage severity scale between the groups. Of interesting note is that this study found most of the women in both groups to have an anterior defect predominantly as seen in many other prolapse studies. The mechanism of action behind the effect of childbirth leading to a prolapse was tested in a novel prospective study conducted by Sultan et al consistent with the effects of parity as stated above, pudendal nerve terminal motor latency measurement proved the greatest effect on prolapsed from the first vaginal delivery. This was shown to be due to perineal descent at the time of labour. Also in concert with previous findings, this study did not find a difference in the different modes of delivery. In fact, pudendal damage was seen in women who had laboured for >20 hrs with fetal head engagement followed by a caesarean delivery.

Hysterectomy: The effects of hysterectomy on POP has been evaluated. The disruptions of endopelvic fascia, uterosacral-cardinal ligaments supports and local nerve supply, by hysterectomy can conceivably impair pelvic floor. Previous debate centred on the route of hysterectomy (i.e. vaginal versus abdominal). Retention of cervix during hysterectomy prevents the disruption of the uterosacral and cardinal ligaments thereby preventing possible future prolapsed. Older studies, however, have been observational and limited by retrospective data collection.

MATERIALS & METHODS

Medical records from 2 groups of women who had undergone hysterectomy were reviewed retrospectively. The study group of 82 women who had undergone surgery for vaginal prolapse i.e. hysterectomy, the control group was 124 women who had undergone hysterectomy with no diagnosis vaginal prolapse at the time of study. All hysterectomy procedures had been performed for benign gynaecological disease, including POP. Both groups of women completed a self-administered questionnaire to obtain additional information on the occurrence of POP

OBSERVATION & DISCUSSION:

A randomised, double blind trial by Thakur et al compared

the outcome of total hysterectomy and subtotal hysterectomy with one year follow up. The preoperative and post operative rates of urinary frequency, stress incontinence, urgency, poor stream and incomplete bladder emptying did not differ significantly between the two groups. Also, at one year follow-up, two patients (1.5%) in the subtotal hysterectomy group presented with cervical prolapse.

A recent analysis of short term outcomes, such as hospital duration, return to normal activities and number of febrile episodes, showed greater overall benefits with vaginal hysterectomy compared to abdominal hysterectomy. However, randomised trials are necessary to evaluate long term outcomes of pelvic prolapse and incontinence as current data is lacking comparing the two modalities.

In women with prolapse, Liapis et al compared paravaginal and uterosacral biopsies in women with POP with or without SUI and normal women. In the group with POP, a significant reduction of type III collagen was noted compared to the other group. An adjunct piece of evidence on the role of connective tissue lies in the study that observed greater frequency in abdominal hernias in those with prolapse, again suggesting the importance of functional collagen in the prevention of these disorders. In further analysis of endopelvic fascia biopsies, Chen et al concluded that this deficit is not due to a decreased production of collagen but due to increased degradation of nascent collagen.

Damage to the components of the pelvis floor can occur through chronic transmitted intra abdominal downward pressure. One mechanism is through chronic cough secondary to a chronic pulmonary disease which has been tested by Rinne et al that proved asthma to be a greater risk factor of approximately 12%. In correlation with this, a large cross-sectional study found an increase of 56% in the prevalence rate among patients who currently smoke.

Obesity also seems to impact pelvic floor functions. The WHI found patients with BMI in the range of 25-30 kg/m² to have 31% of uterine prolapse, 38% of rectocele and 39% of cystocele. These percentages increased with increased BMI values.

OCCUPATION Although there is little data on the risk of occupation on POP, available studies seems to be consistent with the idea of profession impacting pelvic functionality. An initial Danish study concluded an occupation that requires heavy lifting to be a potential cause of prolapsed as manifested in a greater number of prolapsed surgeries in the population. In a study by Chiaffarino et al, housewives were significantly at a higher risk of prolapse than women in managerial positions under the assumption that they encounter greater physical labor. To further stratify different occupations with their concurrent risk of prolapse, Woodman et al found the greater odds ratio of 7.75 in factory workers and labourers. This was followed subsequently by housewives, service workers, technical workers and professionals.

CONCLUSION

The incidences of vaginal prolapse after hysterectomy was significantly higher in women with a higher number of vaginal deliveries, more difficult deliveries, fewer caesareans, complication after hysterectomy, heavy physical work, neurological disease, hysterectomy for pelvic organ prolapsed and/or family history of pelvic organ prolapse. Premenopausal women had vaginal prolapse corrected an average of 16 years after hysterectomy, and postmenopausal women 7 years post hysterectomy

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