



PREVALENCE AND ETIOLOGICAL FACTORS INVOLVED IN FEMALE PELVIC PROLAPSE IN SOUTH INDIA

¹*Dr. Sivanandan PhD, ²Dr. P. Josephina Rosy, ³Dr. Salameh Al Dajah and ⁴Hariraja Muthusamy

^{*1}Assistant Professor of Anatomy, Majmaah University, KSA.

²Assistant Professor of Obstetrics & Gynaecology, Madha Medical College & RI, Chennai, India.

³Associate Professor of Physical therapy. College of Applied Medical Science, Majmaah University, KSA.

⁴Lecturer, College of Applied Medical Science, Majmaah University, KSA.

***Author for Correspondence: Dr. Sivanandan**

Assistant Professor of Anatomy, Majmaah University, KSA.

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ABSTRACT

Background: Normal physiological function of the pelvic organs depends on the anatomic integrity of the support components. Pelvic support defects may contribute to pelvic organ prolapse; urinary and anal incontinence; Pelvic support anatomy has been a subject of debate for over a century. **Objectives:** This study aim to describe the prevalence and the etiological factors that affects the pelvic prolapse among women in south India. **Methods:** This study was conducted in 50 cases of women with genital prolapse who underwent surgical procedure was randomly selected. An informed written consent along with perform was taken before surgery from all patients for the study. **Results:** Analyzing patient who underwent vaginal hysterectomy and/ or repair of anterior/posterior compartment, all genital prolapse cases with age of reproductive, perimenopausal, menopausal with estrogen deficiency were responsible for important known causative factor for genital prolapse. **Conclusion:** This study is to provide information about the prevalence and etiological factor involved in female pelvic prolapse and directions for possible target therapy in South Indian population.

KEYWORDS: Pelvic prolapsed, pelvic floor muscle & genital prolapse.

INTRODUCTION

Female pelvic organ prolapse (POP) occurs when a pelvic organ drops (prolapses) from its normal place and pushes against the walls of the vagina. Many women will have some kind of pelvic organ prolapse. It can be uncomfortable or painful.^[1] So POP is a common condition; it refers to a loss of fibromuscular support of the pelvic viscera resulting in a vaginal protrusion and describes the descent of the pelvic organs into the vaginal canal. It is most often linked to strain during childbirth. Normally pelvic organs are kept in place by the muscles and tissues. The condition usually occurs when the pelvic floor collapses as a result of childbirth or heavy lifting which can tear soft tissues, i.e. herniating fascia membranes so that the vaginal wall collapses, resulting in cystocele, rectocele or both these muscles and the surrounding tissues can get weak or stretched.^[2] Pelvic organ may prolapse in following conditions like overweight, a long-lasting cough, frequent constipation. Remediation typically involves dietary and lifestyle changes, physical therapy, or surgery. Anatomically, pelvic floor is formed by both the muscles and their intact attachments to the endopelvic fascia: damage to this compartment leads to POP.^[3]

The connective tissue of the pelvis is comprised of collagen, elastin, smooth muscle, and micro fibers, which are anchored in an extracellular matrix of polysaccharides.^[4] There is evidence that suggests abnormalities of connective tissue and connective tissue repair may predispose women to prolapse. Women with joint hypermobility had a higher prevalence of genital prolapse (cystocele, rectocele, and uterine/vaginal vault prolapse) compared with women with normal joint mobility. Women with connective tissue disorders such as Ehlers-Danlos or Marfan's syndrome are more likely to develop pelvic organ prolapse and urinary incontinence.^[5] One third women with Marfan's syndrome and three fourths of women with Ehlers-Danlos syndrome reported a history of pelvic organ prolapse.

Abnormalities in the anatomy, physiology, and cellular biology of smooth muscle in the vaginal wall may contribute to the pathophysiology of pelvic organ prolapse.^[6] For example smooth muscle fibers arising from the vaginal wall attach to the levator ani complex and dysfunction of this smooth muscle may affect the attachment of lateral vagina to pelvic wall. Additionally it has been shown that the fraction of the smooth muscle

in the muscularis (third layer of vagina) at the anterior and posterior vaginal wall apex in women with prolapse is decreased compared with women with no prolapse.^[7] A decreased smooth muscle content of the round ligament in women with pelvic organ prolapse has also been described. The cellular processes that affect these changes in the vaginal wall during pathogenesis of pelvic organ prolapse are unknown. Currently it is not known whether changes in smooth muscle content are a result of the mechanical forces imposed on the prolapsed tissues, or if decreased amounts of muscularis smooth muscle have a role in development of this disorder. Decreased content of differentiated smooth muscle in the vaginal wall of women with pelvic organ prolapse may be secondary to mechanical forces imposed on prolapsed vaginal tissues or to denervation of the vaginal tissues during vaginal delivery. Nevertheless, decreased fraction of smooth muscle in the muscularis of prolapsed vaginal tissue may impair vaginal tone.^[8]

Moreover, prolapse is another word for hernia of the muscles that lies under the pelvic organs; it conveys a significant burden on individuals and society, even if it rarely threatens the general health and/or life of the person. Genitourinary prolapse is a common complaint, with approximately 11% of all women requiring at least one corrective surgical procedure.^[9,10] The etiology of female POP is equally poorly defined and maybe multifactorial. Although several articles were published to clarify the risk factors related to prolapse, the aim of this study is to find the prevalence and the possible etiology involved in female pelvic prolapse in south Indian population and also it gives suggestions for possible target therapy.

MATERIALS AND METHODS

This study was conducted on women with genital prolapse who underwent surgical procedure in Department of Obstetrics and Gynaecology, Raja Muthiah Medical College and Hospital (RMMCH), India, which included all the cases of genital prolapse undergoing surgery (vaginal hysterectomy, cystocele undergoing cystocele repair rectocele undergoing pelvic floor repair and vaginal hysterectomy with or without cystocele/ enterocele repair). After the brief history and physical examination, 100 subjects were randomly selected from the 211 female who are advised to have pelvic prolapse surgery. An informed consent for obtaining medical information was signed before surgery from all subjects. Medical information includes, age and parity of the subjects, interval between pregnancy, nature of labour, types of prolapse and nature of repair was collected in special form by a registered nurse during interview with patients before the surgery was done.

RESULTS

According to this study, analyzing patient who underwent vaginal hysterectomy and/or repair of anterior/posterior compartment, all genital prolapse cases with age of reproductive, perimenopausal, menopausal

with estrogen deficiency and it was found that following demographic and clinical factors were responsible for prolapse, like age of the patient according to the reproductive life, parity of the patient, interval between pregnancy, nature of labour, types of prolapse and nature of repair.

AGE OF THE PATIENTS

The sample group age range from 20-35. The majority were at 35 years (40%). In this group they have more parity and less interval between births (Figure 1).

Parity of the patient (P)

In this study there was one case of prolapse belonging to P1(1%). There were 12 cases of prolapse between P2-P3(24%). There were 24 cases of prolapse between P4-P5(48%). There were 13 cases of prolapse reported with P >0.05 (26%).

Interval between pregnancies

It was also found that women who had spacing of less than 1 year between deliveries had repeated injury of the pelvic connective tissue and muscles which probably attributed to genital organ prolapse at a comparatively earlier age when compared to those women of the same age who had adequate spacing.

Type of prolapse for female underwent surgery

A high percentage (44%) of the women who underwent pelvic surgery have had a combination of two or more types of pelvic prolapse. A single prolapse is less frequent with more frequency for genital prolapse and rectocele alone (20 & 16%) (Table 1).

Pelvic organs prolapse related to nature of labour

The majority of the women who had surgery for pelvic prolapse (62%) were have had normal delivery. Interestingly, there were 0% of the women who went for surgery were had instrumental delivery procedure. (Table2).

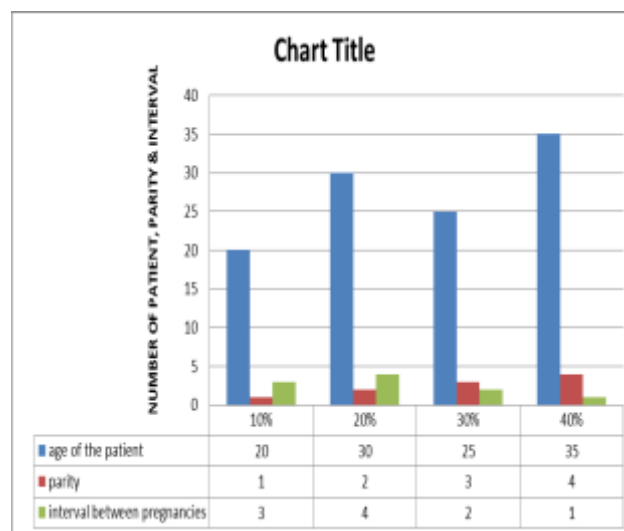


Fig.1: Demographic analysis of the age, parity and interval between the pregnancies of the POP patient.

Table 1: percentage of different type of prolapse for female undergoing surgery.

ORGAN PROLAPSE	NO. OF CASES	% OF CASES
CYSTOCELE ALONE	5	10%
RECTOCELE ALONE	8	16%
ENTEROCELE ALONE	3	6%
GENITAL PROLAPSE	10	20%
VAULT PROLAPSE	2	4%
COMBINATIONS	22	44%

Table 2: percentage of pelvic organs prolapse related to nature of labour for female underwent surgery.

NATURE OF LABOUR	NO. OF CASES	% OF CASES
NORMAL DELIVERY	31	62%
INSTRUMENTAL DELIVERY	0	0%
NORMAL + INSTRUMENTAL	15	30%
NORMAL + OPERATIVE (Caesarian)	3	6%
NORMAL + INSTRUMENTAL + OPERATIVE (Caesarian)	1	2%

DISCUSSION

Genital prolapse is one of the most common findings in outpatient gynecology department.^[12] Early detection of prolapse is difficult in developing countries because the large population and most of them belonging to low socioeconomic status who do not come for regular gynecology checkups.^[12,13,14] In this study, women at the age of 35 with 4 children and 1 year of interval between pregnancies have 40% chances of getting POP. But chance of getting POP was decreased to 30% for 25 years old female with 3 birth and 2 years interval between pregnancies. When compared with 30 years with 2 children of 4 years gap between births the chances was (20%). Chance of getting prolapse was decreased to 10% for 20 years old female with given birth of 1. So the knowledge of number of children, interval between births as well as the age are the important factors to reduce the POP for females.

The most common cause of uterine prolapse is trauma during childbirth, due in particular multiple or difficult births. If the parity of the patient is more than 2, means more chance of getting POP. About 50% of women who have had children develop some form of pelvic organ prolapse in their lifetime. It is more common as women get older, particularly in those who have gone through menopause.

Women with pelvic organ prolapse can present with a wide variety of bladder; bowel and pelvic symptoms. With the exception of vaginal bulging symptoms, however; none are specific to prolapse. There is considerable overlap with other pelvic floor disorders and clinicians should be cognizant of other potential sources for the patient complaints. The hymen appears to be an important landmark for symptom development for pelvic organ prolapse (POP Q) quantification.^[15,16,17] When pelvic organ prolapse extends beyond the hymen; the number of symptoms and degree of bother caused by these symptoms will be more for the patient.^[17] Additionally, the nature of the symptoms can change. For instance, in women with prolapse beyond the hymen,

voiding dysfunction symptoms are more prevalent. So patients with pelvic floor prolapse should be counseled on the importance of various lifestyle modifications that may prevent or improve their symptoms of prolapse.^[18] Maintaining an ideal body weight limits the pressure that the abdominal content places on the pelvic floor. Any activity such as walking or gardening that engages the pelvic floor can help strengthen the muscles. Patient should be counseled to squeeze or perform a Kegel contraction when lifting or straining. Physical therapists also recommend to have a discussion regarding suitable exercises for pelvic muscles strengthen and bowel habits training for passing motion without straining the pelvic floor muscles.

Recommendations: To avoid POP, female in child birth age should have

1. Adequate spacing between childbirths of more than 3 years.
2. Avoid perineal muscle stretching during labour to preserve from neuropathy.
3. Practice strengthening of pelvic floor muscles both by antenatal and postnatal exercises.
4. Limit the number of birth to 3 with age limit of 35 years.

CONCLUSION

Our finding support the etiological as well as clinical factors like age, parity of the patient, interval between pregnancy and nature of labour.

CONFLICT OF INTEREST

The authors declare that there was no conflict of interest by any means.

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