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Review article

## MECHANICAL DEVICES IN PELVIC ORGAN PROLAPSE

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### ABSTRACT

Pelvic organ prolapse (POP) is a common condition, up to 50% of women will have some degree of prolapse and many are asymptomatic. The pessaries are intended to decrease the symptoms of prolapse and are valid options for patients with stress incontinence. Generally pessaries are safe to use. There are two types of pessaries, support type and space occupying type. Ring pessary is very commonly used, as it is easy to insert and remove. Pessaries can make a significant difference in the quality of life of the patients and even can differ surgical management. As the aging population is increasing in developed and developing countries, pessaries can be of considerable help in managing the pelvic organ prolapse.

**Keywords:** Pelvic organ prolapse; vaginal pessary; Urinary incontinence

### INTRODUCTION

Pelvic organ prolapse (POP) is a common condition with an overall incidence of more than 10% in the western world<sup>1</sup>, the mean prevalence of pelvic organ prolapse was 19.7% in the Indian subcontinent<sup>2</sup>. Up to 50% of women will have some degree of prolapse and many are asymptomatic. Prolapse is managed either by mechanical devices, conservative techniques or by surgery<sup>3</sup>.

The pessaries are aimed to decrease the symptoms of prolapse or delay the need for surgery. Pessaries are a valid option for patients with stress incontinence worsened by strenuous physical activity<sup>4</sup>. Zeelha Abdool et, al., in their study found, one year after the treatment of symptomatic POP either with mechanical devices

or surgical methods, women had similar improvement in both the groups with respect to urinary, bowel, sexual function, and quality of life parameters<sup>5</sup>. However there was little evidence from controlled trials on which to judge whether their use is better than no treatment. There was also insufficient evidence in favour of one device over another and little evidence to compare mechanical devices with other forms of treatment<sup>6</sup>. Varieties of pessaries are available for this purpose.

The word 'pessary' comes from a Greek word 'pessos' meaning an oval stone. Oval stones were inserted into the uterus of saddle camels using a hollow tube, to prevent conception during long desert voyages. This practice was

widespread in both Arabia and Turkey and would have translated to apply to all intrauterine devices in later periods<sup>7</sup>.

Different techniques are being used since many years to manage prolapse. Egyptians have documented pessary use, suggesting that mechanical devices have been used to restore the prolapse since many years. Hippocrates used the technique of suspending a woman upside down using a ladder in an attempt to reduce the prolapse<sup>3</sup>. He also described reduction of vaginal prolapse by placing a halved pomegranate soaked in wine into the vagina<sup>8</sup>. Modern day pessaries are made up of silicone or inert plastic.

**Incidence of prolapse:** Kumari S et al., in their screening study found, 7.6% of women had symptoms of uterine prolapse. Out of which 57% had not taken any treatment. The prevalence of prolapse was significantly higher in women with higher parity. It is difficult to estimate the exact number of women using pessaries. Only small numbers of women were using ring pessary<sup>9</sup>.

**Indications for insertion of pessary:** The most common indication for pessary use is POP. Pessaries are generally offered for women who desire nonsurgical management, have early-stage prolapse or patients who are not fit for surgery. In addition pessaries are better options for women having stress incontinence, pelvic pain, and back ache or in the presence of pressure symptoms due to POP<sup>4</sup>.

**Contraindications:** Generally pessaries are safe to use, patients who are allergic to silicon or latex should not be recommended to use the pessaries made of these materials. Their insertion should be suspended in presence of active vaginitis and pelvic inflammatory disease. But can be inserted after the clearance of infection. May not be recommended for non-compliant patient<sup>4</sup>.

**Types of pessaries:** Pessaries are usually made of silicone or inert plastic materials and they do not absorb vaginal secretions and they prevent odours, In addition silicone pessaries can be autoclaved. There are two types of pessaries, support type and space occupying type. In First

and second degree prolapses the supporting type of pessaries are used and in third degree prolapse the space occupying type of pessaries are used, sexual intercourse is not possible in space occupying type of pessaries.

First degree prolapse is defined as within the vagina, second degree is up to the introitus; third degree is decent outside the intoritus<sup>2</sup>. Ring pessary is most commonly used pessary in India. Keisha A Jones et.al. descried many types of available pessaries. Commonly used ones are (A) Ring,(B) Ring with diaphragm (C) Hodge with support, (D) Gehrung, (E) Risser, (F) Hodge, (G) Smith, (H) Cube, (I) Shaatz, (J) Rigid Gellhorn, (K) Flexible Gellhorn, (L) Incontinence ring, (M) Inflatoball, (N) Donut and (O) Shelf pessary<sup>4</sup>.

**Selection of pessaries: Ring pessary** [Fig.1] is usually the first-line pessary, as it is easy to insert and remove, the types of ring pessaries are those with and without support, and those with a knob for concomitant stress urinary incontinence. The size of pessary is determined by objective assessment of the size of the vagina by vaginal examination. Index and middle fingers are inserted into the vagina with middle finger reaching the posterior fornix as high as possible, and then a point is marked on the base of the index finger that is performing the vaginal examination just below the pubic arch. The distance between the two points is measured and 1 to 1.5 cms is deducted to allow soft tissues. The outer diameter of the ring should be approximately equal to this calculated distance<sup>3</sup>.

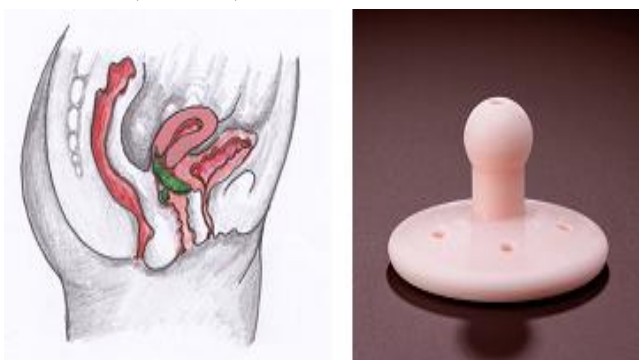


**Fig.1: Ring pessary**

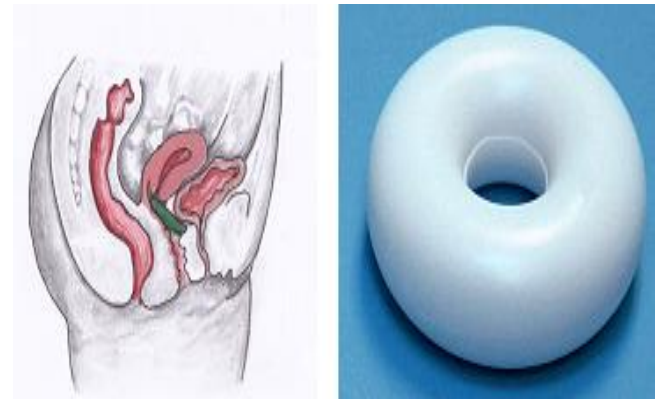
**Fitting of the ring pessary :** The ring needs to be lubricated and the outer diameter of the ring is squeezed at the middle so that it assumes the dumbbell shape and it is inserted into the vagina in such a way that its leading point is behind the cervix and the opposite end is behind the pubic arch. The longitudinal axis of the pessary is kept in the anteroposterior direction of introitus. After insertion, pessary is released slowly so that it is placed in the correct position; the ring is palpated all along the outer margin to check for pressure points. The largest pessary that fits comfortably is to be selected by trial and error basis <sup>3</sup>.

Before sending the patient home with pessary in situ, she is encouraged to pass urine and walk around to ensure that there is no difficulty in micturition and no undue pressure symptoms. Patient is advised to come back to the hospital, if the pessary is too tight or uncomfortable or if it drops out and that a different size will be inserted. The Gellhorn pessary [Fig. 2] is suitable for more advanced-stage prolapse, or in a patient who is sexually not active. Removal and insertion of this pessary is technically more difficult and cannot be done by the patient herself and needs trained personnel.

Gellhorn pessary has a concave portion attached to a stem that faces into the vagina. To insert the pessary it is folded in half with the use of lubricant on the leading edge to ease insertion. Once the pessary is behind the pubic symphysis, it will expand and rest against the leading edge of prolapse, forming suction. To remove the Gellhorn, the knob is grasped and rotated to release the suction and then the pessary is pulled downward, folded, and removed.



**Fig.2: Gellhorn pessary**



**Fig.3: Donut pessary**

The donut pessary [Fig. 3] can be used to relieve the symptoms of a cystocele or rectocele and for second or third-degree uterine prolapse. It is hard to compress, so is difficult to insert and remove. The cube pessary is flexible silicone and may be used in III and IV degree prolapse. The pessary has a string on one end for easy removal. The cube pessary is compressed and inserted into the vagina it forms suction with the leading edge of prolapse and very often the secretions in the vagina are trapped resulting in malodorous discharge. So it is usually used as last option<sup>4</sup>. It is difficult to select the ideal pessary as there is insufficient evidence in favour of one device over another and little evidence to compare mechanical devices with other forms of treatment<sup>6</sup>.

### **Complications of pessaries**

The newer pessaries are made of inert materials and need minimal care for maintenance, but can cause vaginal excoriations, ulcerations and impaction, vaginal discharge. Rarely they can cause vaginal actinomycosis, bacterial vaginosis, vesicovaginal fistula and rectovaginal fistulas. Unusual complications are cervical entrapment, small bowel incarceration, hydronephrosis and vaginal cancer have also been reported. Neglected pessaries can be removed safely and sometimes cause fibrosis resulting in regression of the prolapse. Local application of estrogen and regular follow up of patients can minimise the complications associated with pessaries. Pelvic floor muscle training can reduce severity and symptoms of prolapse for women with stage I to III prolapse<sup>4, 10</sup>.

**Inter course and pessaries:** Sexual inter course is possible with ring pessary. The newer pessaries made of silicone are soft and user friendly. Patients can also be taught to remove them, clean and reinsert them after the intercourse. However the space occupying passers like Shelf pessary and Gellhorn pessaries act like a mechanical barrier for sexual intercourse.

**Follow up:** Patients who are asymptomatic and who do not have vaginal wall ulcerations on examination, the pessary can be changed every 6 months. Pessaries should be removed and not to be reinserted if there are ulcerations or erosions. So that they are allowed to heal. If the ulcers are persistent and non-healing, biopsy is justified to rule out any underlying pathology. If vaginal mucosa is atrophic, application of topical oestrogen cream is to be considered and pessary is changed more frequently (every 3 to 4 months). Proctientia with non-healing ulcers may need in patient admission for reduction of prolapse and vaginal packing; this in turn reduces the tissue oedema and help in healing of the ulcers.

There is no reliable data on various issues like indications for different types of pessaries, who can fit the pessary, how often it needs to be changed, should it be used along with hormone replacement therapy and or pelvic floor exercises<sup>4</sup>. Cochrane study did not find any evidence from randomised controlled trials to recommend pessaries as a mode of management for pelvic organ prolapse.

## CONCLUSION

Usefulness of Pessaries, for non-surgical management of prolapse is time tested and is effective. Minimal investment is needed for understanding and incorporating the use of pessaries and can make a significant difference in the quality of life of the patients and even can differ surgical management.

Pessaries are effective options for women who are not fit for surgery, who have not completed

their families or those who decline surgery. Very few side effects are associated with pessaries which can be minimised by regular follow up. As the aging population is increasing even in developing countries, pessaries can be of considerable help.

## REFERENCES

1. Zoltan Nemeth, Johannes Ott. Complete recovery of severe postpartum genital prolapsed after conservative treatment – a case report. *International Urogynecology Journal*. November 2011;22 (11): 1467-69.
2. Godfrey JA Walker, Prasanna Gunasekera. Pelvic organ prolapse and incontinence in developing countries: review of prevalence and risk factors. *International Urogynecology Journal*. February 2011; 22 (2): 127-35.
3. Yalanadu Narendra Suresh, Rotimi AK Jaiyesimi. Mechanical devices for genital prolapse. *Trends in Urology Gynaecology & Sexual Health*. 2009; 14(2): 22-24.
4. Keisha A Jones, Oz Harmanli, MD. Pessary Use in Pelvic Organ Prolapse and Urinary Incontinence. *Reviews in Obstet. Gynecol*. 2010; 3(1): 3–9.
5. Zeelha Abdool, Raneer Thakar, Abdul H. Sultan, Reeba S. Oliver. Prospective evaluation of outcome of vaginal pessaries versus surgery in women with symptomatic pelvic organ prolapse. *International Urogynecology Journal*. 2011; 22(3): 273-278.
6. Lipp A, Shaw C, Glavind K. Mechanical devices for urinary incontinence in women. (Review) Published Online: 6 JUL 2011. The Cochrane Library.
7. Reeba Oliver, Raneer Thakar, Abdul H. Sultan. The history and usage of the vaginal pessary: a review. *European Journal of Obstetrics & and Reproductive Biology*. June 2011; 156(2): 125–130. *Gynecology*
8. Kumari S, Walia I, Singh A. Self-reported uterine prolapse in a resettlement colony of

north India. *J Midwifery Womens Health*. 2000; 45(4): 343-50.

9. Babet H, Lamers, Bart MW, Broekman, Alfredo L Milan. Pessary treatment for pelvic organ prolapse and health-related quality of life: a review. *International Urogynecology Journal*. June 2011; 22 (6): 637-44.
10. Suzanne Hagen, Raneer Thakar. Conservative management of pelvic organ prolapse. *Obstetrics, Gynaecology & Reproductive Medicine*. May 2012; 22(5): 118–122.