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Case Report

Ayurveda management of cystocele, uterine prolapse and weak pelvic floor strength-A case report

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ABSTRACT

Pelvic organ prolapse (POP) is the downward displacement of pelvic organs. The condition is very common in women and negatively affects their quality of life. The aging process reflects in the form of structural and functional weakness of the pelvic floor which leads to pelvic floor dysfunction (PFD). The strength and endurance of the Pelvic floor muscles (PFM) decrease significantly by these dysfunctions. In the present study, Pelvic floor strength (PFS) and endurance were assessed with the help of a perineometer. The patient was diagnosed with cystocele, uterine prolapse and weak PFS was assessed with the Perineometer. Patient was treated with *Ayurvedic sthanika chikitsa* (local treatment)- *Yoni abhyanga* (vaginal massage) and improvement in PFS was assessed after treatment. The present article aims to assess the pre and post-outcome results of PFM by using the objective tool perineometer. Seven days of *yoni abhyanga* along with oral medication were given and on follow-up after three months, the patient showed increased strength and endurance on the perineometer. Early diagnosis and management of the PFD will help to improve the QoL (Quality of Life) and prevent further deterioration of PFS.

1. Introduction

Pelvic organ prolapse (from the Latin *prolapsus*, to fall) is the downward displacement of pelvic organs, usually the vaginal wall, uterus, and rectum. The patient mostly presents with the complaint of the feeling of a mass coming through the vagina ,straining and dribbling urine while coughing, or sneezing. Atrophy of the muscles and genital organs is noticed after menopause. In India, the incidence of POP is seen more in the age group of 46–65 years, with an average of 47.2 years, which is usually a perimenopausal age [1]. According to recent reports, 40% of women between 45 and 85 years of age have POP on examination, but only 12% are symptomatic [2]. One of the strongest etiological factors for vaginal wall prolapse is a loss of pelvic floor muscle tone due to vaginal delivery or pregnancy. Risk factors include parity beyond one pregnancy, assisted labor, the prolonged second stage of labor, advancing age, chronic cough or constipation, and connective tissue disorders [3].

Negligence leads to higher degrees of dysfunctions and may need surgical correction. Pelvic floor surgeries in old-aged women are accompanied by a high chance of recurrence and post-operative complications [4]. This makes them reluctant to do such procedures, which hampers their quality of life. Because of this reason, a proper assessment of the strength, function, and integrity of PFM has an important role in diagnosing and treating PFD from its early stage to prevent such QoL (Quality of Life) reduction [5].

Under the broad spectrum of POP, based on its severity, *Prasramsini* [Su: U:38/13], *Phalini* [Su: U:38/18], *Andini* [Bha: Pra: Ci:70/14], *and Mahayoni yonivyapat* [Ca: Ci:30/32] are the different clinical presentations from Ayurveda classics, where *vata* (body humor) is said to be a common contributing factor. The perimenopausal age group is in the transitional stage with an association of *vata* along with *pitta. Vardhakya avastha* (old age) further aggravates the condition by the *parihani* (declining) stage of *sharira* (body) . For the management of such cases, Ayurvedic classical texts advise *sthanika* chikitsa which possess more local effects of the drug. The improvement in the patient was observed as increased pelvic muscle strength. The studies related to POP have not experimented with pelvic floor strength as an assessment criterion. In the present case report the improvement of pelvic floor strength was assessed

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objectively by a vaginal manometer which is a novel approach in Ayurveda.

2. Patient information

A 57-year-old married woman came to the OPD of the Department of *Stri Roga* and *Prasuti Tantra* (Gynecology and Obstetrics), Amrita School of Ayurveda in November 2021. She complained of increased frequency of urination along with stress urinary incontinence and burning micturition since July 2021. Her first delivery was without any complications, but during her second delivery, she had obstructed labor because of a big baby and she was in labor for more than 15 h. Finally, the baby was delivered through a cesarean section. Her postpartum period was also complicated due to surgical site infection and she was not able to take proper postpartum care. She started the profession of a nurse at the age of 35 and had to travel 3–4 h everyday along with walking with heavy weights for long distances. Due to sudden alterations in diet, bowel habits, and lifestyle, she had been suffering from constipation for the past 22 years. In 2019, August she was diagnosed with hypertension in a health checkup and was on medication Tab. Alprazolam for 2 years. Currently, her BP was under control with the Ayurvedic medicine Tab. Normalin. She was diagnosed with a slight rise in fasting blood sugar (FBS- 122 mg/dl) on November 2021 and was advised to control it with diet modification and exercise. She attained menopause at the age of 52 and had the present clinical symptoms for 6 months. Timeline of history is given in Table 1.

2.1. Clinical findings

The patient is a known case of hypertension and hypothyroidism and was on medication for the same complaints. Her blood pressure was 120/80 mmHg, pulse rate was 70/min, and, body mass index was 26.6 kg/m^2. She is of *vata pitta prakriti* (body constitution) with *avara satva* (weak mental power) and *Krura Koshtha* (constipated bowel). On examination of the genitourinary systemexternal skin, labia, and urethra appeared normal. The peripheral smear study showed presesnce of first degree cystocele. The cervix was healthy and parous with an atrophied vagina. The pervaginal examination showed an atrophied uterus with first-degree uterine prolapse. The PFS was grade 2 on the Oxford grading system of vaginal digital palpation.No other abonormalities were noted.

A detailed timeline of the case is given in Table 2.

3. Diagnostic assessment

The patient had a vaginal squeeze pressure of 10 mmHg (weak PFM strength on a perineometer). Her vaginal digital palpation was Grade 2 on the Oxford grading scale. Her urine routine examination showed 8-10 HPF pus cells. All the other parameters were within normal limits.

PFM strength can be assessed by vaginal pressure [6]. The International Continence Society recommends PFM evaluation to assess post-therapeutic intervention effectiveness [7]. The conical vaginal probe of the perineometer was inserted into the vagina and PFM strength was then evaluated by the resting pressure inside and by maximum voluntary contraction. Vaginal squeeze pressure was also measured. Endurance (maximum time for which the patient can sustain a PFM contraction) was also measured.

Table 1
Timeline of the history.

Time	Event
13 years	Menarche
24 years	First delivery – FTNVD
29 years	Second delivery – Cesarean due to big baby (4.2 Kg)
35 years	Lifestyle changed and constipation started
52 years	Menopause attained
56 years	Stress urinary incontinence with increased frequency of urination and burning micturition.

Table 2
Timeline of the case.

Events	Time line
Manifestation of the first symptom	July 2021
Treatment started	21/10/2021
First follow-up	06/11/2021
Local treatment	09/12/2021
First assessment	09/12/2021
Second assessment	15/12/2021
Follow up	05/03/2022

4. Therapeutic intervention

The therapeutic intervention on the first visit was *Chandraprabha vati* administered (Ayurvedic formulation) internally and *Yashtimadhu taila* (oil processed with *Glycyrrhiza glabra*) administered externally over the vagina and urethral orifice. After one month of medication, urine routine examination was done and pus cells were reduced to 2–3 HPF. Then *sthanika chikitsa - yoni abhyanga* with *Bala taila* (oil processed with *Sida cordifolia* etc) and urethral instillation of *Yashtimadhu taila* were started, followed by *samana* (pacifying) therapy by *Kshirapaka* (medicated milk), and *Chandraprabha vati.* Details of medicines are given in Table 3.

5. Follow-up and outcomes

After seven days of treatment, the patient was symptomatically better and feeling tightness in the vagina. PFS assessment values are given in Table 4.

6. Discussion

Urinary incontinence is one of the complications of hypertension and diabetes. In the present case, the hypertension was under control by allopathic medication for initial two years and now she shifted to Ayurvedic medicine. A prediabetes stage was diagnosed since one month, which is five months after the emergence of urinary symptoms. These two co-morbidities were not chronic enough for the onset of a complication like urinary incontinence. The main clinical symptom mentioned by the patient was stress urinary incontinence and which occurs mainly due to pelvic muscle weakness.

Improper activities and pathologies related to difficult labor are mentioned as the main causes in classical texts for *yonivyapat* (gynecological diseases) [*Su: U*:38/1–2; D*alhana*]. The present case had an history of difficult labor and lack of proper care during the postpartum period, which may also favor the progress of pathology. While explaining the management of difficult labor,Acharya Kashyapa added some conditions like *bhrastayoni* (prolapse) and *purishamutrasamrodha* (difficulty in urination and defecation) as complications of difficult labor, which, can be correlated to PFD. *Yoni gadhikaranakriya* (treatments for tightening the yoni) and perineal care are mentioned in Ayurvedic *sutika paricharya* (postpartum care) showing the importance of tightening pelvic musculature during postpartum. While analyzing the pathogenesis of the present case, *vata prakopa* (vitiation of *vata*) due to the primary causative factor *dukhaprasava* (difficult labor) was precipitated by risk

Table 3
Details of therapeutic interventions.

Time period of Intervention	Medication	Dose	Treatment duration
21/10/2021–27/11/2021	Tab *Chandraprabha*	1-0-1	30 days
	Yashtimadhu taila	External application	30 days
09/12/2021 to 15/12/2021	*Yoni abhyanga* (Vaginal massage)with *Bala taila*	Approximately 15 ml	Procedure time-20 minutes , 7 days
	Kshirapaka (Milk processed with *Sida cordifolia*), *Goksura* (*Tribulus terrestris*), and *Shatavari* (*Asparagus racemosus*)	One *pala* (48 ml) twice daily	7 days
	Chandraprabha Vati (Ayurvedic Formulation)	1-0-1 after food	7 days
	Urethral instillation – *Yashtimadhu taila* (Oil processed with *Glycyrrhiza glabra*)	2 ml after *yoni abhyaṅga*	7 days
Discharge medicine			
16/12/2021 to 17/01/2022	*Chandraprabha* Vati (Ayurvedic Formulation)	1-0-1 after food	1 month

Table 4
Perineometric and Vaginal Digital Palpation values before and after treatment.

Parameter		Before treatment	On the 7th day of treatment	On the 3rd month follow up
Perineometric value	Vaginal resting pressure	8 mm Hg	12 mmHg	12 mmHg
	Pressure on Pelvic floor contraction	10 mm Hg	18 mmHg	16 mmHg
Vaginal digital palpation(Oxford grading)		2	4	4
PFM Endurance		4 Seconds	28 Seconds	16 Seconds

factors like *vegodirana* (straining due to chronic constipation) and weight lifting. Even if the *samprapti* (pathogenesis) of PFD had begun at some point in life, the patient now is of menopausal age, which is a *parihani* (declining) stage of life, that accelerates the natural aging process. All *vata prakopa* etiologies lead to *apana vata vaigunya* (vitiation of *apana* type of *vata*) and finally lead to the *sithilata* (laxity) of the *yoni*. Without the vitiation of *vata, yoni roga* will not occur. *Prasramsini yonivyapat* is the diagnosis here and presented with *kshobha* of the *yoni, pitta kopa lakshana* (symptoms of increased *pitta*) and associated with *dukhaprasava*. Here the patient is moving from m*adhyama vaya* (middle age) to v*ardhakya avastha*, a transition between *pitta dosha* predominance to *vatika* predominance. During this time, the transition from the reproductive phase to the menopausal period occurs. Thus, the perimenopausal period can be considered a *parihani* stage with the association of more *vata dosha* along with *pitta dosha*. The integrity and compactness of the organs is lost by the vitiated *vāta* which further causes pelvic organ prolapse.

Sthanika chikitsa (local treatment) given in the form of *yoni abhyanga* is mentioned in the treatment of *Prasramsini yonivyapat*. *Abhyaaga* (massage) is *jara vatahara* (pacify aging process and *vata dosha*) and *dhatupushi janakatva* (nourishing tissue elements) which rejuvenates the vaginal wall and associated musculature by *dhatu pushti* [*A:H: Su*:2/8]. The drug chosen was *B. taila* [*A:H: Sha*:2/47] due to its *brimhana* (nourishing) and *vatahara karma* which is needed for a *vatika* predominant displaced state of the *yoni*, particularly in menopausal age. *sukshma* (minute), *vikasi* (rapid acting), and *vyavayi* (spreading) *guna* of *taila* help the entry of formulation into deeper *dhatus* (tissues). Intravaginal drug absorption [8] and improvement of skeletal muscle performance after the massage is also proven by many studies [9,10].

Along with *abhyanga*, *kshirapaka* with *Shatavari, Bala*, and *Gokshura* were also recommended to the patient. By realizing the fact that oxidative stress could be the pathology behind POP, these antioxidant drugs were selected. *Balya* (strength promoting), *brihana,* and *rasayana* (rejuvenating) properties of drugs along with milk act as a rejuvenator. Here these three are, *shitavirya* (cold potency) and *madhura rasa* (sweet taste) also, so the burning sensation due to the *pitta prakopa* will be subsided by this. *Yashtimadhu taila* was used for urethral instillation as local symptomatic management for burning sensation. *Yashtimadhu* is *madhura* and *pitta shamana* which helps to pacify *pitta kopa* and by that, it reduces the burning sensation over the urethra. *Chandraprabha vati* may work here with its *tridoshaghna* (pacify vitiated *doshas*), *rasayana,* and *balya* properties.

Degenerative change during the perimenopausal phase is inevitable. Early diagnosis and management of these changes will help to improve the QoL of women. The result obtained in the present case was objectively assessed and the patient showed good muscle strength during the follow-up after three months. The Ayurvedic therapy *yoni abhyanga* can be effectively used as preventive and curative management of PFD in risk categories like menopause.

7. Patient perspective

The patient was symptomatically better from the second day of the procedure and had a feeling of tightness in the vagina.

8. Informed consent

Informed consent was taken from the patient.

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None.

Author contribution statement

Dr. Hemavathi Shivapura Krishnarajabhatt: Conceptualization, Validation, Investigation, Supervision.

Dr. Kasthoory Lekshmy. M : Formal analysis, Data curation, Writing – original draft.

Dr. Cinu Mitra. N.S : Data curation ,Writing – Original draft.

Dr. Parvathy Unnikrishnan: Supervision, Visualization, writing review and editing.

Dr. Anjaly Muraleedharan: Supervision, writing review and editing.

Declaration of competing interest

None.

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