

**Case Study****A CASE STUDY ON THE TRAINING OF PELVIC FLOOR MUSCLE FOLLOWING HYSTERECTOMY TO IMPROVE THE QUALITY OF LIFE**

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**ABSTRACT**

Now a day's abnormal uterine bleeding in premenopausal women is the most common indication of hysterectomy which usually results from myomas and adenomyosis. In this case study, a 38-year-old female, with a complaint of abnormally heavy bleeding with menstrual cycle irregularity and discomfort for 15 days each month with dysmenorrhoea. She was diagnosed for large fibroid deposition at the posterior wall of the uterus and extroverted in the position. So, she was prescribed for vaginal Hysterectomy by a gynecologist further investigation, she underwent a vaginal hysterectomy, post-operatively patient was complaining about lower abdominal pain and difficulty in bed mobility activities. There was weakness in pelvic floor muscles after the surgery, due to which she had worried about overweight, physical health, and her quality of life. So she approached the physiotherapist, where she had trained for pelvic floor muscle training two-three sessions per day for two weeks with abdominal, back, and hip strengthening exercises with a home exercise program. VAS scale, Oxford grading system, PFIQ, QOL questionnaire was taken as outcome measure prior and after the intervention. The present case report emphasizes the effect of the combination of different exercises for pelvic floor muscles encasing the comprehensive rehabilitation plan including a home exercise regimen allowing the patient to recover early and return to daily activities.

**KEYWORDS:** Myomas, Adenomyosis, Vaginal hysterectomy, lower abdominal pain, Pelvic floor muscle weakness.

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**INTRODUCTION**

Following a cesarean section, the vaginal hysterectomy is the maximum, not unusual place surgical procedure. The vaginal course to hysterectomy is a discreet, practical, cost-effective, and patient-pleasant option. The maximum not unusual place motive for hysterectomy in premenopausal ladies is unusual uterine bleeding, that's resulting from myomas and adenomyosis. Another symptom is continual pelvic ache because of endometriosis and/or adenomyosis.<sup>(1)</sup> The maximum, not unusual place benign conditions that contribute to hysterectomy are myomas that purpose symptoms (51.4 %), dysfunctional vaginal bleeding (41.7 %), endometriosis (3 %), and uterine prolapse (18.2 %). Minor complications embody fever, bleeding, and infection. Anatomical complications embody injury to the urinary bladder, ureter, intestines, rectum, anus, and numerous nervous systems. Different aspect effects embody sexual dysfunction, canal cuff prolapse, and urinary incontinence. The bulk of hysterectomies are done to treat benign diseases that may harm the patient's quality of life however aren't life-threatening.<sup>(2)</sup> A straightforward hysterectomy is often the treatment of alternatives within the early stages of mucous membrane cancer, cervical cancer, sarcomas, or physiological state membrane disease.

Performing this procedure regularly improves the proficiency of the gynecologist so that conditions such as ovarian cysts,

broad ligamentous fibroids, and other limb lesions can be treated vaginally during hysterectomy without the need for invasive abdominal surgery. Backstalematethat can make surgery easier or replacement surgery.<sup>(3)</sup> Through the liberal use of debulking, conducting oophorectomy, laparoscopic examination, and trial duct cutting out, vaginal hysterectomy practitioners have broadened their indications and reduced contraindications. This conventional technique will be used a lot often with surgical advancements.<sup>(4,5)</sup> According to studies, a lot of invasive abdominal or laparoscopic route with attendant morbidity is that the most typical sort in rotund women. Duct cutting out was studied in 102 morbidly rotund women (BMI > 40) and compared to fifty morbidly obese girls who underwent abdominal cutting out and duct hysterectomy in 200 normal-weight girls (BMI < 25 >). Compared with patients of normal weight, vaginal hysterectomy for morbidly obese patients takes a little longer, but abdominal surgery takes much longer. Obese women have significantly longer hospital stays for abdominal surgery. Obesity is a contraindication to entering the abdomen. Therefore, it is recommended that the surgeon perform a vaginal hysterectomy.<sup>(6,7)</sup>

**PATIENT INFORMATION**

The patient is a 38-year-old female, who is a farmer by occupation, built is endomorph, right-hand dominance. She had a history of two full-term normal delivery, the duration between the gravidas is two years, Tubal ligation was done in 2004. No relevant family history, she had mixed diet with normal appetite, there was sleep disturbance due to pain, bowel and bladder movements are normal, signs of anxiety and depression present. She was apparently alright until she started a menstrual cycle complaint of irregularity, heavy flow use of 7 napkins/day, dark color flow with foul odor and clots, and discomfort for 15 days every month with dysmenorrhea since August 2020, she consulted the gynecologist who assessed her and prescribed medications, but the problem began again after completion of treatment, so she was prescribed for vaginal Hysterectomy by a gynecologist. Investigations done to diagnose the problem include CBC, USG of abdomen and pelvis, and Spiral CT scan which reveal bulky uterus with e/o posterior wall fibroid 54×48 mm and retroverted uterus, so she underwent a vaginal hysterectomy on 24/01/21. Post-operatively, the complaints were lower abdominal pain and discomfort, and bed mobility difficulty. There was weakness in pelvic floor muscles after the surgery, so she referred to the physiotherapist for further management. The pain characteristics were described as gradual in onset, intermittent in nature, present all over the abdomen throughout the day (visual analog scale 9/10). When performing everyday living tasks, pain is exacerbated, shifting posture from sitting to supine and relieved by rest and medicines.

**Timeline**

USG done on	20 January 2021
Spiral CT done on	20 January 2021
Radio diagnosis done on	20 January 2021
Date of admission	23 January 2021
Date of surgery	24 January 2021

**DIAGNOSTIC ASSESSMENTS**

**USG abdomen and pelvis:** Uterus bulky with e/o posterior wall fibroid 54×48 mm, retroverted uterus.

**Spiral CT scan:** Whole abdomen Heterogeneous hyperdense focal lesion of approx 10.7×10cm seen in pelvic region elevating and compressing bladder s/o haematoma mild edema & stranding of surrounding pelvic fat also noted, minimal to mild free fluid also seen in rest of abdomen and pelvis region, Minimal bowel wall edema changes in lower abdominal small bowel loops and rectosigmoid also noted, Liver mildly enlarged in size and show normal shape & show uniform decreased attenuation s/o fatty infiltration.

**THERAPEUTIC INTERVENTIONS****1. Breathing training**

Starting with regulation diaphragmatic breathing for the first few days, then transitioning to thoracic expansion exercises for 7-10 repetitions 3-5 times a day for two weeks. Transverse abdominis (TrA's) intervention raises the function of PFM in females and the amount of urethral activity in healthy women. TrA is also involved in pulmonary processes. It is the main muscle of forced expiration and forms mainly consists of the abdominal musculature, extending horizontally around the abdominal, primarily below the navel level. When paired with the rectus abdominis and internal and external obliques, the TrA can keep the abdomen smooth. While isolating the TrA, which works within a complex system, may sound too easy, it is worth investigating because women may find it much easier to consciously contract the TrA than the PFM at first.<sup>(2)</sup>

**2. Pelvic floor muscles training**

Among the various treatment methods for females, pelvic floor muscle exercises were recommended as a first initial therapy for urinary incontinence to reinforce the pelvic floor muscle and were found to be successful as physiotherapy.<sup>(8)</sup> The pelvic floor muscles (PFM) are the only muscle grouping in the body that can offer structural protection to the pelvic organs, genital, and urethral openings. However, loss of muscle regulation or pelvic floor instability may cause incontinence and pelvic organ prolapse in women of all ages. In the crook lying posture, the physical therapist will instruct the patient to contract pelvic muscles and maintain them for 5 seconds, then relax and feel the vaginal and anal openings, as well as an upward as well as forward movement towards the bladder. During working in the crook lying position, practice quick contractions and releases, recognized as flicks, that last 2 to 3 seconds. By setting standards of exercise overload, gradually lift repetitions to 8 to 12 a day and contraction time to 10 seconds, two to three times a day for two weeks. Weakness in the hips and gluteus will exasperate PFM dysfunction even more. A strong complex of pelvic girdles necessarily involves an emphasis on the lateral stabilization of the hip and pelvic muscles parallel to the PFM muscles. A substantial increase was seen due to exercises that caused adjacent contractions of the gluteals, tensor fascia lata, abdominals, and adductors, indicating the important relationship between gluteal and hip complex ability.<sup>(9)</sup>

**3. Alternative exercises**

Abdominal, back, and hip strengthening exercises, also as yoga, are all choices for exercise. Many poses that may be integrated into an exercise routine on an everyday basis to boost TrA activation, respiration habits, and overall awareness of girdle region muscles. Observation and therefore the use of breath help with the voluntary relaxation and contraction of the PFM. This implies that synchronized preparation needs not simply movement however conjoint muscle knowledge. During PFM

contractions, inhalation and exhalation are shown to be a lot effective.<sup>(4)(10)</sup>

#### 4. Ergonomics advice to improve quality of life

Avoid heavy weight lifting for first 6 weeks, squatting position used while lifting a heavy weight first bend the knees then lift the weights, In long-standing posture weight shifting, is done to prevent excess weight on one limb, proper gait training and posture training was given to avoid postural strain.<sup>(8)</sup>



#### Follow-up and Outcomes

##### 1. Follow-up

Continue the previous exercises with an increase in repetition. Strengthening exercises for pelvic floor muscles, core muscles, back extensor muscles and advised for improving her quality of life and improve her physical fitness.

##### 2. Outcomes

Outcome measures	Before intervention	After intervention
VAS	9/10	4/10
Oxford	2/6	4/6
PFIQ	233/300	99/300
QOL	55/75	35/75

#### DISCUSSION

Menstrual dysfunction affects millions of women in developing worlds, causing pain, discomfort, and disruption of a healthy lifestyle. Hysteroscopy is a valuable addition to a gynecologist's toolkit. It has the potential to improve the diagnosis and treatment of uterine diseases. Following hysteroscopy, the patient's elective operation will be better equipped. Hysteroscopy almost removes blind curettage in irregular uterine bleeding because it "sees" and "decides" the cause. In patients with frequent uterine bleeding, hysteroscopy allows for a quick diagnosis and effective treatment.<sup>(11)</sup>

The most preferred surgical procedure is hysterectomy because the condition revealed the root cause. Pelvic floor disorder is a common gynecological issue impacting women's wellbeing in this patient, aside from their quality of life. Women will become more aware of deliberately contracting the PFM once PFM has been recognized and the right to willingly contract it remains during ADL To prevent urine leakage, tighten the PFM before raising, coughing, twisting, or doing any other task. Many moves, or as an as, in yoga can include back bending, spinning, forward bending, inversions, sitting postures, which standing postures, and can be explored after women have learned supine exercises. This case study shows that following a hysterectomy, there is a high chance of healing.<sup>(12)</sup>

#### CONCLUSION

The present case report emphasizes the effect of the combination of different exercises for pelvic floor muscles encasing the comprehensive rehabilitation plan including a home exercise regimen allowing the patient to recover early and return to daily activities.

#### AUTHOR'S CONTRIBUTION

All authors contributed equally to the manuscript.

#### CONFLICT OF INTEREST

The authors declare no conflict of interest.

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#### INFORMED CONSENT

Written & Oral informed consent was obtained from all individual participants included in the study. Additional informed consent was obtained from all individual participants for whom identifying information is included in this manuscript.

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