

CASE STUDY**POST HYSTERECTOMY PHYSIOTHERAPEUTIC PROTOCOL FOR CORE MUSCLES AND PELVIC FLOOR MUSCULATURE STRENGTHENING IN CASE OF ADENOMYOSIS****Chitrakshi A. Choubisa¹, Tejaswini B Fating^{1*}, Waqar M. Naqvi^{1,2}, Pratik Phansopkar¹, Chaitanya A Kulkarani¹**

1. Ravi Nair Physiotherapy College, Datta Meghe Institute of Medical Sciences, Wardha, India.
2. MGM school of physiotherapy, Aurangabad. Constituent college of MGM institute of health sciences, Navi Mumbai, India

ABSTRACT

Adenomyosis is an important gynecological condition. It is considered a benign uterine disorder that shows a pathological demonstration of the endometrial gland and stroma in the uterine myometrium. A 42 years old female patient presented with excessive bleeding during menses and irregular menstrual cycle with dysmenorrhea, for 7-8 months. The patient complains of pain for 7-8 months in the lower abdomen region, in the iliac fossa on both left and right side, and is insidious in onset. The patient went to a private hospital where she got diagnosed with adenomyosis and suggest removal of the uterus. The investigation was done which includes CBC, KFT, LFT, and USG abdomen and pelvis which revealed that patient is having Adenomyosis. Vaginal hysterectomy is the least invasive type of hysterectomy, which is having lesser costs and risks which can also be done in women having uterus weighing more than 280g. For managing postoperative complication of hysterectomy various physiotherapy intervention could be given which includes pelvic strengthening exercises, core strengthening, breathing exercises, and yoga poses. The study concluded that hysterectomy may result in post-surgical manifestations which can be effectively managed by early physiotherapy intervention which impacts on quality of life of the patient.

KEYWORDS: vaginal hysterectomy, adenomyosis, kegal's exercises, pelvic floor weakness, pelvic strengthening.**DURATION:** Received- 13/05/2021, Reviewed- 18/05/2021, Revised/ Accepted- 31/05/2021**CORRESPONDENCE:****Tejaswini B Fating*** ✉ tejaswinifating1997@gmail.com, ORCID-<https://orcid.org/0000-0001-6891-5643>**Address** - Senior Resident of Community Health Department, Ravi Nair Physiotherapy College, Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India.**INTRODUCTION**

Nowadays Adenomyosis has also been diagnosed in young fertile-age women.⁽¹⁾ Incidence of adenomyosis is 0.14% in women age 15-50 years. Prevalence of adenomyosis 2.00% as estimated from incidence of all diagnoses, adenomyosis holds 28% and is more prevalent in women after 50 years of age group. 70 to 80% of women are in their fourth or fifth decade when undergoing hysterectomy for adenomyosis. Risk factors for adenomyosis include multiparity, smoking, ectopic pregnancy, use of antidepressant medications, Tamoxifen usage since it has shown an increased incidence of adenomyosis in women who all are treated with Tamoxifen for breast cancer.⁽²⁾

In the United States, vaginal hysterectomy is included in most commonly performed procedures. This procedure is unique in the way that it has multiple routes of access and multiple operative techniques. The vaginal hysterectomy stands on the first position in the category of minimally invasive technique since it is an original natural orifice surgery. It is the least invasive type of hysterectomy offering relatively lesser associated risks and costs, owing to this reason, while planning to perform a benign hysterectomy, vaginal hysterectomy can be given first-line consideration.^{(1),(3)} Vaginal hysterectomy can be safely performed in women having uterus weighing more than 280 g and with successful

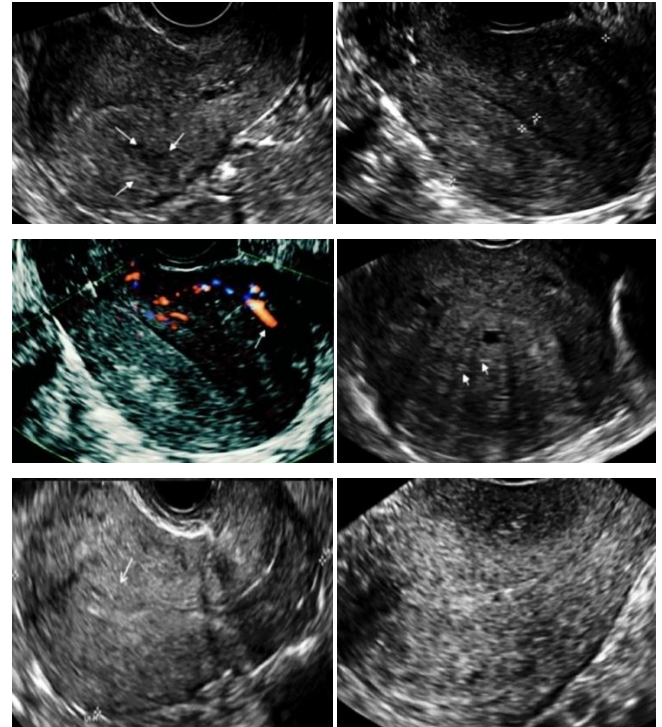
results.⁽⁴⁾ Adenomyosis is considered a gynecological disorder under which there is a pathological representation of endometrial glands and stroma in the uterine myometrium. Adenomyosis is being seen in young women having pain, AUB, infertility, dyspareunia, and if not any symptoms are present, it can be identified by using transvaginal ultrasound and MRI techniques. Often adenomyosis is also linked with another gynecological complication, which also includes endometriosis and uterine fibroids. Adenomyosis has remained a histopathological diagnosis for several years which was established after hysterectomy in perimenopausal females having excessive menstrual bleeding (HMB) or related pelvic pain.⁽⁵⁾

Treatment for adenomyosis requires a lifetime treatment strategy because the condition may have an adverse influence on the quality of life in respect of menstrual signs, fertility, and pregnancy result in a heightened incidence of miscarriage and obstetric complications. Medications such as non-steroidal anti-inflammatory drugs and hormonal therapy which involves oral contraceptive pills, higher dose of progestins, a levonorgestrel-releasing intrauterine implant, danazol, gonadotropin-releasing hormone agonists are mostly used to treat the symptoms of adenomyosis and can be used for short term triggering regression of the adenomyosis.⁽⁶⁾ Also in many

women there may be need of the more aggressive type of treatment. Hysteroscopic tactics which include Endometrial ablation/resection may be carried out the usage of a yttrium aluminum garnet (YAG) laser, rollerball resection, or international ablation techniques which includes thermal balloon ablation, cryoablation, circulated warm fluid ablation, microwave ablation, and bipolar radiofrequency ablation excisional tactics which includes Myometrial/adenomyoma excision and myometrial discount may be carried out wherein there may be focal elimination of adenomyosis may be carried out if the area of foci may be determined.^{(5),(7)} Uterine artery tying may be performed in such cases. Additionally, Myometrial electro coagulation has the capacity to contract endometriosis by promoting necrosis. This system is done laparoscopically so as to treat confined disease. alternative interventions includes artery embolization.^{(1),(8)}

CBC was done which reveals haemoglobin level of 6.9% which shows the patient is anaemic and platelets level of 3,48,000/cu mm.

USG abdomen and pelvis reveals thickened endometrium with few small oval hypoechoic areas within posterior myometrium with irregularity of junctional zone and present adenomyosis.



PATIENT INFORMATION

The patient is a 42 years old female who is a farmer by occupation having right side as a dominant side and is married to G3 P2 L2 A1. The patient presented with excessive bleeding during menses with irregular menstrual cycle since 7-8 months which was also associated with dysmenorrhea. The patient complains of pain for 7-8 months in the lower abdomen region in the iliac fossa in both left and right side and is insidious in onset with no aggravating and relieving factors (visual analog scale: 8/10). The woman went to a private hospital where she was diagnosed with adenomyosis and later referred to AVBRH for further care where she was operated on 17th January 2021 using vaginal hysterectomy. She has been known to have hypertension in her former medical records for 1 year and has no past surgical experience of the usual vaginal form of delivery. Her menstrual history includes her menarch period, which was 13 years, sporadic menstrual bleeding lasts 20-25 days, she needs 3-4 pads a day, she has dysmenorrhea and clots is present in bleeding. Her personal history includes her mixed diet and sufficient appetite, her sleep-wake cycle and bowel bladder movements were normal without interruption.

THERAPEUTIC INTERVENTIONS

Therapeutic measures are found to be effective to reduce the complications, to strengthen the pelvic floor muscles and improve outcomes of patient. Physiotherapy will concentrate on alleviating the symptoms from surgery and preparing the patient for speedy recovery and lessen the hospital stay.

CLINICAL FINDINGS

Physical examination was done, the vitals were stable. Per abdominal examination revealed tenderness over the lower abdominal region in the left and right iliac fossa. Pelvic examination was limited due to pain

Timeline

Date of admission of patient	15 th Jan 2021
Date of surgery	17 th Jan 2021
Date of examination and intervention	19 th Jan 2021
Date of discharge	26 th Jan 2021
Follow up after 15 days of discharge	10 th Feb 2021
Follow up after 30 days of discharge	25 th Feb 2021

DIAGNOSTIC ASSESSMENTS

Table 1: physiotherapy treatment protocol

Intervention	Position	Repetition	Duration
Breathing exercises	<ul style="list-style-type: none"> • Semi-fowlers position for diaphragmatic breathing . • Lean forward position for pursed lip breathing. • Sitting position co-ordinated breathing exercises with upper limb movements. 	10RM in initial first week	For 2-3 weeks
Lower limb mobility exercises	<ul style="list-style-type: none"> • Long sitting position for ankle toe pump movements. • Supine position for active hip flexion and abduction. • Side lying position for active hip extension and knee flexion. 	10RM in initial first week	For 2-3 weeks
Kegel's exercises for pelvic floor strengthening	Supine or sitting position	5RM in initial first week and gradually increase to 8RM- 12RM	Contract for 2-3 seconds then gradually increase to 5 seconds to 10 seconds. (for 2-3 weeks)

Core strengthening exercises for abdominals and back extensors	Bridging position	5RM in initial first week and gradually increase to 10RM	Maintain position for 2-3 seconds initially and then increase gradually to 5 seconds to 10 seconds. (for 2-3 weeks)
Yoga poses	Malasana (squatting pose), boat pose, shalbhāsana	5RM in initial first week and gradually increase to 10RM during follow up as a home protocol.	Hold the position for 2-3 seconds initially and then increase gradually to 5 seconds to 10 seconds. (for 2-3 weeks)

obstruction, vaginal cuff dehiscence and prolapse of pelvic structures due to weakness of pelvic musculature.^(11,12)

These complications can be prevented by early physiotherapy intervention which includes Kegel’s exercise and core strengthening and can be easily performed in a supine and sitting position. The goals of the strengthening program can help in improving muscle strength and preventing deformities causing due to stiffness. For improving muscle strength, strengthening training is recommended.⁽¹³⁾ Kegel’s exercises were first mentioned by Arnold Kegel in 1948 in the pelvic floor musculature strengthening. Pelvis floor muscles include levatorani and coccygeus muscles which act as a supporting system for the organs in the pelvic region.⁽¹⁴⁾ Exercise by Kegel is successful in reducing prolapse and urinary incontinence by improving the musculature of the pelvic floor and thereby controlling social distress or humiliation. By improving the musculature of the pelvic floor, pelvic floor exercises may enhance in the effects of prolapse. The workout protocol of Home-based Kegel may also be helpful for women with urinary incontinence.

Follow-up and Outcomes

Follow up was taken 15 days and 30 days after discharge

Scale	Rating on day after surgery	Rating on day of discharge	Rating after 15 days of discharge	Rating after 30 days of discharge
VAS	8/10	5/10	3/10	1/10
OXFORD	1	3	4	5
PFIQ	199/300	133/300	99/300	63/300



CONCLUSION

The study concluded that hysterectomy may result in many post-surgical manifestations which include urinary incontinence or organ prolapse which can be effectively managed by early physiotherapy intervention which includes Kegel’s exercise, core strengthening, breathing exercises, lower limb mobility, and bed mobility exercises and yoga poses.

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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DISCUSSION

For treating adenomyosis, vaginal hysterectomy procedure can be used. In United States, a vaginal hysterectomy is included in most commonly performed procedures .this procedure is unique in the way that it has multiple routes of access and multiple operative techniques. The vaginal hysterectomy stands on the first position in the category of minimally invasive technique since it is an original natural orifice surgery. It is the least invasive type of hysterectomy offering relatively lesser associated risks and costs, owing to this reason, while planning to perform a benign hysterectomy, vaginal hysterectomy can be given first-line consideration.^(9,10) Vaginal hysterectomy can be safely performed in women having uterus weighing more than 280 g and with desirable results. Along with the benefits, there are various post-surgical complication related to hysterectomy which includes bowel

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