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Fibroid Uterus: A Case Study

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Abstract: ***Fibroid uterus, also known as Uterine leiomyoma, represents a common gynaecological disorder affecting women, particularly those in their reproductive years. This paper presents a case study focusing on the clinical manifestation, diagnosis, management, and nursing care of a 45 - year - old woman with fibroid uterus. Fibroids, benign neoplasms of the uterine wall, are classified based on their location within the uterus. Risk factors for fibroid development include early puberty, obesity, genetic predisposition, and oral contraceptive use. Diagnosis often involves ultrasound imaging, revealing characteristic features such as heterogeneous hypoechoic lesions. Management options range from medical to surgical interventions, with considerations for patient age, fertility preservation, and symptom severity. Surgical procedures like myomectomy and hysterectomy may be necessary, while non - surgical alternatives such as uterine artery embolism and myolysis offer alternatives. Nursing care focuses on pain management, nutritional support, infection prevention, and patient education. Early detection and appropriate management are essential to mitigate the risk of complications and preserve fertility in affected women.***

Keywords: Fibroid Uterus, Uterine Leiomyoma, Gynaecological Disorder, Clinical Manifestation, Diagnosis, Management, Nursing Care, Fibroid Development

1. Introduction

Uterine leiomyomas, commonly known as fibroid uterus, represent a prevalent gynaecological disorder characterized by benign neoplasms within the female genital tract. Referred to interchangeably as fibroma, fibromyoma, or myoma, this condition primarily affects nulliparous women, with the most affected age group falling between 35 and 45 years. Research indicates that 5 - 20% of women in their reproductive years are afflicted with fibroids, making it a significant health concern (Hinkle & Cheever, 2018).

These non - cancerous growths originate from the smooth muscle layer of the uterus and can vary greatly in size, number, and location within the uterine wall. While many women with fibroids remain asymptomatic, others may experience a wide range of symptoms, including heavy menstrual bleeding, pelvic pain, pressure on the bladder or rectum, and reproductive issues such as infertility or recurrent miscarriages (Magon & Sira, 2021). The etiology of fibroid development remains multifactorial, influenced by genetic predisposition, hormonal factors, and environmental elements. The intricate interplay of these factors contributes to the heterogeneity observed in fibroid characteristics and clinical presentations. Moreover, the exact mechanisms underlying fibroid pathogenesis and growth continue to be an area of active research and investigation (Konar & Dutta, 2020; Basavanthappa, 2009).

Given the prevalence and clinical significance of fibroid uterus, there exists a growing body of literature aimed at elucidating its epidemiology, pathophysiology, diagnostic modalities, and therapeutic interventions.

Incidence of Fibroids

- The incidence of fibroid uterus is about 3% in Indian women.
- In black women, the incidence rate is higher than that of white women.
- A higher incidence is seen in obese women and those with a history of long - term use of oral contraceptive pills.

Types of Fibroids

- **Intramural Fibroids (75%):** They are located within the uterine corpus wall and may distort the uterine cavity.
- **Submucosal Fibroids (5%):** These develop from the myometrium just deep into the endometrial lining and can often protrude into the endometrial cavity.
- **Subserosal Fibroids (50%):** These develop below the serosa layer and are often pedunculated, extending between folds of the broad ligaments.
- **Cervical Fibroids (20%):** These are like intramural fibroids but are found in the uterine cervix instead.

Figure 1 shows the types of uterus fibroids.

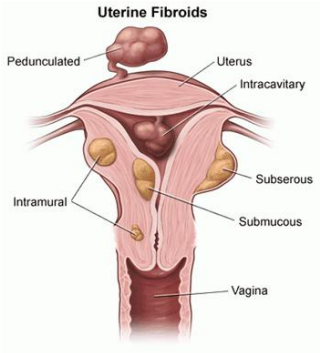

Figure 1

Risk factors of Fibroids

- Early onset of puberty
- Obesity
- Genetic factors
- Oral contraceptives
- Age and race

Pathophysiology of Fibroids

The uterus is enlarged, its shape distorted by multiple nodular growths of varying sizes. Occasionally, there may be a uniform enlargement of the uterus due to a single fibroid. The cut surface of the uterus is smooth and whitish.

The tumor consists of smooth muscle and fibrous connective tissues in varying proportions. Initially, they consist only of muscle, but later, fibrous tissue intermingles with the muscle

bundle, forming what is called fibromyoma. (Stewart, 2015; Kala et al., 2023).

2. Literature Review

Donnez and Dolmans (2016) discovered that approximately one - third of women diagnosed with leiomyomas or uterine fibroids will seek treatment due to associated symptoms. Management primarily revolves around surgical interventions, with treatment decisions influenced by factors such as patient age, fertility preservation concerns, and aversion to radical procedures like hysterectomy. The approach to managing uterine fibroids also considers factors such as their number, size, and location. Surgical options include myomectomy via hysteroscopy, laparotomy, or laparoscopy, uterine artery embolization, and interventions utilizing radiologic or ultrasound guidance for thermal ablation of fibroids. The economic burden of uterine fibroid management is substantial, underscoring the need for the development of new treatments to offer alternatives to surgical intervention.

Evans and Brunsell (2007) elucidated that the prevalence of uterine fibroid tumors escalates with age among women, with over 30 percent of those aged 40 to 60 being affected. A significant proportion of these tumors are asymptomatic and might be discovered incidentally. Various diagnostic methods, such as transvaginal ultrasonography, magnetic resonance imaging, sonohysterography, and hysteroscopy are available to assess the size and location of the tumors. Ultrasonography is recommended as the initial diagnostic tool due to its minimally invasive nature and costeffectiveness. Treatment strategies need to be tailored to individual patients, considering factors such as symptom severity, patient preference for definitive treatment, preservation of fertility, importance of maintaining the uterus, infertility arising from uterine cavity distortions, and past pregnancy complications associated with fibroid tumors.

Khyade (2017) provided insights into Leiomyoma, commonly known as fibroids due to their rich fibrotic composition, which exhibit a cumulative incidence of 70 - 80% during childbearing years. Fibroids stand as the most prevalent benign tumors, posing a substantial burden on women's health and imposing significant economic costs on society. This prospective study, spanning one year, involved 50 cases presenting at the obstetrics and gynecology department. The prevalence of uterine fibroids varied, with rates of 46% among those aged 41 - 45 years, 24% among those aged 46 - 50 years, and 11% among those aged 36 - 40 years. Among women with uterine fibroids, complaints included menorrhagia in 78%, dysmenorrhea in 30%, metrorrhagia in 10%, polymenorrhagia in 22%, abdominal pain in 22%, urinary issues in 8%, secondary obstructive pulmonary disease (SCOPV) in 6%, primary infertility in 4%, leukorrhea in 12%, and abdominal lumps in 4%.

Singh (2019) explored the effectiveness of homeopathic remedies in addressing infertility resulting from uterine fibroids. While conventional medicine typically offers surgical options like myomectomy or, in severe cases, hysterectomy, homeopathy emerges as a promising alternative for treating myomas. At Care 'N' Cure Homoeopathic Health Centre in Delhi, numerous cases of uterine fibroids have been successfully managed with homeopathic medicines over the past 13 years. Approximately 70% of these cases have demonstrated significant improvement. Many patients, initially recommended for surgery by other physicians, experienced complete resolution of fibroids through well - tailored homeopathic treatment and counselling. The duration of treatment varied depending on the size and number of fibroids. The outcomes of this study on uterine fibroids are highly encouraging, with some previously infertile patients achieving conception with the assistance of homeopathy.

3. Management of Fibroids

3.1 Medical Management

- Gonadotropin - Releasing Hormone Analogue
- Oral Contraceptives
- Non - Steroidal Medications
- Tranexamic Acid
- Anti - Progestins

3.2 Surgical Management

- Hystectomy: Removal of the uterus
- Myomectomy: Removal of fibroids
- Hysteroscopic Myomectomy: A rigid tube with a light and an operative element that can remove fibroid tissue is used.
- Laparoscopic Myomectomy: A minimally invasive procedure to remove uterine fibroids.
- Laparotomic Myomectomy: An open abdominal incision is made to access the uterus and remove fibroids.

3.3 Non - Surgical Alternatives

- Uterine Embolization: A procedure in which tiny particles (about the size of grains of sand) are injected into the blood vessels that lead to the uterus.
- Myolysis: The destruction of muscle tissue.

4. Case Study of Mrs. X

Mrs. X, a 45 - year - old woman, was admitted to Kanyakumari medical college with the complaints of severe abdominal pain and heavy menstrual bleeding over 10 days. Following a detailed physical examination, investigations, and an ultrasound scan, she was found to be conscious and oriented.
Her vital signs were as follows:

- Temperature (98.8°F),
- Pulse (88 beats/min),
- Respiration (24 breaths/min),
- Blood pressure (130/90).

The ultrasound report revealed a few well - defined, round, and oval - shaped heterogeneously hypoechoic lesions (volume: 104.975 cc) in the posterior wall of the uterus, indenting and displacing the endometrium anteriorly. This is suggestive of submucosal fibroid, type 2–5.

Prior to surgery, general anaesthesia was administered (injection of propofol (150 mg) and fentanyl (100 mg). The surgery performed was a total laparoscopic hysterectomy with a bilateral salpingo - oophorectomy.

Figure 2 shows the USG - Abdomen and Pelvis images of the fibroid uterus.

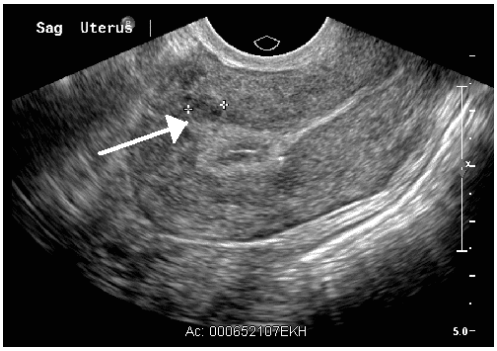

Figure 2

4.1 Investigation

The ultrasound scan report was received. The results are as follows:

4.1.1 Uterus

Grade II fatty liver

- Bulky uterus measuring 12.38 x 6.78 x 5.66 cm.
- Heterogeneously hypoechoic lesion in the posterior wall of the uterus, indenting and displacing the endometrium anteriorly.
- Few well - defined, round, and oval - shaped heterogeneously hypoechoic lesions (volume: 104.975 cc) in the posterior wall of the uterus, indenting and displacing the endometrium anteriorly, suggestive of submucosal fibroid type 2–5.
- There are few other tiny seeding fibroids in the anterior myometrium.

4.2 Lab Report

4.2.1 Haematology

- Hemoglobin: 10.8 g/dl
- Total WBC Count: 6100 cells/cu. mm
- Polymorphs: 41%
- Lymphocytes: 52%
- Eosinophils: 05%
- Monocytes: 02%
- Basophils: 00 PCV/HCT: 27.1% MCV: 75.3
- MCH: 30.6 pg
- MCHC: 36.8 g/dL
- Platelets: 2.00 lakhs/cu. mm

4.3 Procedure

The surgery procedure performed on the patient was a total laparoscopic hysterectomy with bilateral salpingo oophorectomy.

4.4 Complications

- Haemorrhage
- Infection
- Necrosis
- Miscarriage
- Infertility

4.5 Signs and Symptoms

Table 1 shows the signs and symptoms of the patient.

Book Picture	Patient Picture
Lower abdominal pain	Lower abdominal pain
Back ache	
Heavy menstrual bleeding	Heavy menstrual bleeding
Constipation	
Frequent urination	

4.6 Nursing Diagnosis

- Acute pain related to the postoperative wound as manifested by facial expression and pain scale score.
- Imbalanced nutrition is less than body requirements related to pain, as manifested by decreased food intake.
- Activity intolerance is related to pain, as evidenced by the inability to perform daily activities.
- The risk of infection related to surgery is evidenced by hospitalization.
- Fatigue related to poor physical condition is manifested by the inability to maintain a daily routine.

4.7 Nursing Management

- Explain to the patient the importance of iron - rich foods to supplement iron and prevent anemia.
- Provide the patient with a comfortable environment and offer warm reassurance.
- Provide relaxation techniques for the patient.

5. Conclusion

In conclusion, fibroid uterus, or Uterine leiomyoma, is a prevalent gynecological condition that affects a significant proportion of women, particularly those in their reproductive years. The presence of fibroid uterus increases the risk of infertility. Therefore, early detection and treatment are necessary, depending on the size of the fibroid and the woman's desire to become pregnant again. While delivery is possible without harm, excessive bleeding may occur after giving birth. This case study highlights the clinical manifestations, diagnosis, management, and nursing care of a 43 - year - old woman with fibroid uterus. Fibroids, benign neoplasms of the uterine wall, present a diverse array of symptoms ranging from heavy menstrual bleeding to pelvic pain and reproductive issues. Diagnosis often involves ultrasound imaging, and management options vary from medical to surgical interventions, with considerations for patient age, fertility preservation, and symptom severity. Surgical procedures such as myomectomy and hysterectomy may be necessary, while non - surgical alternatives like uterine artery embolism offer alternatives. Nursing care plays a crucial role in pain management, nutritional support, infection prevention, and patient education. Early detection

and appropriate management are essential to mitigate complications and preserve fertility in affected women. Further research and advancements in treatment modalities are warranted to enhance the care and outcomes of women with fibroid uterus.

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