



A Case Series of Endometrial Cast in A Medical College in Kanchipuram

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KEYWORDS

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ABSTRACT:

Endometrial casts are a rare clinical phenomenon characterized by the shedding of the entire endometrial lining as a single piece, often associated with significant pain and menstrual irregularities. This case series aims to describe the clinical presentation, diagnostic findings, treatment, and outcomes of patients presenting with endometrial casts. Data collected included patient demographics, clinical presentation, imaging findings, treatment modalities, and outcomes. Results: Five patients, aged 22 to 40, presented with acute pelvic pain and passage of tissue masses during menstruation. Imaging, primarily transvaginal ultrasound and MRI, identified echogenic masses within the uterine cavity consistent with endometrial casts. Treatment varied: two patients received conservative management with analgesics, one patient was treated with hormonal therapy, and two patients underwent hysteroscopic removal of the casts. Histopathological examination confirmed endometrial casts in all cases. All patients experienced significant symptom relief post-treatment, with no recurrences reported during follow-up. Conclusion: Endometrial casts, although rare, should be considered in women presenting with severe dysmenorrhea and passage of tissue during menstruation. Accurate diagnosis using imaging and histopathological confirmation is crucial. Treatment should be individualized, ranging from conservative management to surgical intervention. Increased awareness and further research are needed to better understand and manage this condition.

INTRODUCTION:

Endometrial casts are rare clinical phenomena characterized by the shedding of the entire endometrial lining in a single piece, often leading to significant pain

and discomfort. Endometrial casts are relatively rare, and exact causes can vary

1. Hormonal Influences

- High-Dose Progestins: Use of high-dose progestin-only contraceptives or medications can cause the endometrial



lining to become thick and cohesive, leading to cast formation upon shedding.

- **Hormonal Contraceptives:** Abrupt cessation or irregular use of hormonal contraceptives can result in a sudden drop in hormonal levels, leading to synchronized shedding of the endometrial lining as a single piece.

- **Hormonal Imbalance:** Conditions causing hormonal imbalance, such as polycystic ovary syndrome (PCOS) or thyroid disorders, may contribute to the formation of endometrial casts.

2. Underlying Uterine Conditions

- **Endometrial Hyperplasia:** Thickening of the endometrium can predispose to the formation of a cast due to the cohesive nature of the hyperplastic tissue.

- **Adenomyosis:** This condition, where endometrial tissue grows into the uterine muscle, can disrupt normal endometrial shedding, leading to cast formation.

- **Uterine Anomalies:** Congenital or acquired structural anomalies of the uterus may facilitate the development of an endometrial cast.

3. Infections and Inflammatory Conditions

- **Pelvic Inflammatory Disease (PID):** Severe infections can cause extensive inflammation and necrosis of the endometrial lining, leading to its expulsion as a cast.

- **Severe Endometritis:** Inflammation of the endometrium can lead to the formation of a cohesive tissue mass that is expelled as a cast.

4. Mechanical Factors

- **Intrauterine Devices (IUDs):** The presence of an IUD can cause local irritation and inflammation, leading to the formation of an endometrial cast.

- **Intrauterine Procedures:** Surgical procedures such as curettage, hysteroscopy, or endometrial ablation can disrupt the endometrial lining, potentially resulting in cast formation.

5. Pharmacological Agents

- **Medications:** Certain medications, particularly those that influence hormonal balance or coagulation, can contribute to the development of an endometrial cast.

- **Chemotherapy:** Chemotherapeutic agents can cause rapid endometrial shedding due to their impact on rapidly dividing cells.

6. Menstrual Irregularities

- **Anovulatory Cycles:** Lack of regular ovulation can result in prolonged estrogen exposure without progesterone withdrawal, leading to a thick, cohesive endometrial lining that may be shed as a cast.

- **Heavy Menstrual Bleeding:** Prolonged and heavy menstrual bleeding can cause extensive endometrial shedding, occasionally forming a cast.

7. Other Factors

- **Trauma:** Physical trauma to the uterus or cervix can cause abnormal endometrial shedding.

- **Stress and Lifestyle Factors:** Severe stress, rapid weight changes, or extreme physical activity may disrupt hormonal balance, contributing to cast formation.

Understanding these causes can help clinicians identify and manage the underlying factors contributing to the formation of endometrial casts, improving patient outcomes and care.

This case series aims to describe the clinical presentation, diagnostic findings, treatment, and outcomes of patients presenting with endometrial casts.

Case Descriptions

Case 1:

- **Patient:** 28-year-old nulliparous female
- **Presentation:** Acute onset of severe pelvic pain and passage of a large tissue mass during menstruation.
- **Imaging:** Transvaginal ultrasound showed a hyperechoic structure within the endometrial cavity.
- **Patient planned for conservative management. Treatment given** Conservative management with analgesics.
- **Outcome:** Complete resolution of symptoms; histopathology confirmed an endometrial cast.
- **Follow-up:** At the six-month follow-up, the patient reported no recurrence of symptoms and regular menstrual cycles without further episodes of cast passage.

Case 2:

- **Patient:** 35-year-old multiparous female
- **Presentation:** Chronic intermittent pelvic pain with irregular menstrual cycles, passage of tissue resembling an endometrial cast.
- **Imaging:** MRI revealed a thickened endometrial lining with a well-demarcated



mass. • Patient planned for Hormonal therapy. Treatment given Hormonal therapy with combined oral contraceptives for 3cycles. • Outcome: Symptom relief and regularization of menstrual cycles; histopathology confirmed an endometrial cast. Follow-up: At the six-month follow-up, the patient reported no recurrence of symptoms and regular menstrual cycles without further episodes of cast passage.

Case 3: • Patient: 22-year-old nulliparous female • Presentation: Severe dysmenorrhea and passage of a cast-like structure during menstruation. • Imaging: Pelvic ultrasound indicated a dense, echogenic endometrial mass. •As patient has recurrence of symptoms once 3to 4months hence planned for surgical intervention. Treatment: Surgical intervention (hysteroscopy) to remove the cast. • Outcome: Immediate symptom relief post-surgery; histopathology confirmed an endometrial cast. Follow-up: At the six-month follow-up, the patient reported no recurrence of symptoms and regular menstrual cycles without further episodes of cast passage.

Case 4: • Patient: 30-year-old Multiparous female who is on Intra uterine device for contraception since six months .Presentation: Presented to emergency department with severe ,cramping lower abdominal pain and heavy vaginal bleeding since three days .Approximately six hours before attending the emergency department severity of pain increased ,she reported passing a large ,solid mass vaginally from that time .She described pain more intense than her usual menstrual cramps .Description of cast – the expelled mass measured approximately seven centimeters in length, six centimeters in width and 2.5centimeters in thickness .It was firm ,with smooth outer surface ,maintaining the shape of uterine cavity . Histopathological examination confirmed with presence of necrotic and viable endometrial tissue without evidence of malignancy. On ultrasound -Transvaginal ultrasound revealed a normal sized uterus with an empty uterine cavity post expulsion of cast .Patient was planned for conservative management and removal of intra uterine contraceptive device .Patient was given NSAIDs for pain relief. Follow-up: At the six-month follow-up, the patient reported no recurrence of symptoms and regular menstrual cycles without further episodes of cast passage.

Case 5: • Patient: 40-year-old multiparous female with a history of endometriosis • Presentation: Presented to the emergency department with acute, severe lower abdominal pain and heavy menstrual bleeding. The patient reported passing a large piece of tissue per vaginam. • Imaging: Transvaginal ultrasound revealed a highly echogenic mass within the endometrial cavity suggestive of an endometrial cast. MRI confirmed the presence of a well-circumscribed intrauterine mass consistent with the cast. • Treatment: Given the patient's significant pain and the recurrent nature of the casts, a decision was made for hysteroscopic removal of the endometrial cast. The procedure was performed without complications. • Outcome: Postoperative recovery was uneventful, with significant pain relief reported by the patient. Histopathological examination confirmed the diagnosis of an endometrial cast. The patient was started on continuous hormonal therapy to prevent recurrence. • Follow-up: At the six-month follow-up, the patient reported no recurrence of symptoms and regular menstrual cycles without further episodes of cast passage.

Case 6:Patient:32-year-old multiparous female who is on hormonal therapy(high dose progestin-only contraceptive) since 2 months .Presentation: Presented to emergency department with severe ,cramping lower abdominal pain and heavy vaginal bleeding since twenty four hours .Approximately six hours after onset of severe pain ,she reported passing a large ,solid mass vaginally that day .She described pain more intense than her usual menstrual cramps .Description of cast – the expelled mass measured approximately eight centimeters in length ,four centimeters in width and 1.5 centimeters in thickness .It was firm ,with smooth outer surface ,maintaining the shape of uterine cavity . Histopathological examination confirmed with presence of necrotic and viable endometrial tissue without evidence of malignancy. On ultrasound -Transvaginal ultrasound revealed a normal sized uterus with an empty uterine cavity post expulsion of cast. Patient was planned for conservative management and discontinuing the high dose progestin-only contraceptive. Patient was given NSAIDs for pain relief. Follow-up: At the six-month follow-up, the patient reported no recurrence of symptoms and regular menstrual cycles without further episodes of cast passage.



Discussion:

Endometrial casts can present with a variety of symptoms, most commonly severe pelvic pain and the passage of a tissue mass during menstruation. Imaging studies, such as transvaginal ultrasound and MRI, are crucial in identifying the presence of endometrial casts. Treatment approaches vary based on the severity of symptoms and may include conservative management, hormonal therapy, or surgical intervention.

Conclusion:

This case series highlights the importance of recognizing endometrial casts as a potential cause of severe menstrual pain and abnormal uterine bleeding. A multidisciplinary approach, including appropriate imaging and histopathological confirmation, is essential for accurate diagnosis and effective management. Further research is needed to better understand the etiology and optimal treatment strategies for this rare condition. Recommendations for Clinicians • Consider endometrial casts in the differential diagnosis for women presenting with severe dysmenorrhea and passage of tissue during menstruation. • Utilize imaging modalities like transvaginal ultrasound and MRI for initial assessment. • Confirm diagnosis with histopathological examination of the expelled tissue. • Tailor treatment to individual patient needs, ranging from conservative management to surgical intervention.

The inclusion of this additional case further underscores the diversity in patient presentations and the various treatment options available for managing endometrial casts. Recognizing this condition and utilizing appropriate diagnostic and therapeutic interventions can significantly improve patient outcomes and quality of life. Further research and awareness are necessary to better understand the etiology and optimal management of endometrial casts.

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- These references provide a range of information, from clinical case reports to comprehensive reviews, which can help in understanding the presentation, diagnosis, and management of endometrial casts.