



## **Chocolate Endometrial Cyst: A Case Report**

**Yugandhara Hingankar<sup>1\*</sup>, Vaishali Taksande<sup>1</sup> and Manjusha Mahakarkar<sup>1</sup>**

<sup>1</sup>Department of Obstetrics and Gynaecological Nursing, Smt. Radhikabai Meghe Memorial College of Nursing, Datta Meghe Institute of Medical Sciences, Sawangi (M), Wardha, India.

### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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**Case Report**

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### **ABSTRACT**

**Introduction:** Chocolate cysts are noncancerous, fluid-filled cysts that typically form deep within the ovaries. They get their name from their brown, tar-like appearance, looking something like melted chocolate. They're also called ovarian endometriomas [1].

**Case Presentation:** The authors report an unusual case of chocolate endometrial cyst. During history collection it found that patient develop a severe pain at midnight, after all the investigation the ultrasonography they diagnosed probe tenderness in RIF. Significant free fluid in abdominal cavity. Well circumscribed mix echoic mass lesion seen in hypogastric region more in right paraumbilical region with eccentrically placed small tubular structure visualized. Mass lesion of size 110mm×110mm. USG guided tapping done, the ascitic fluid smears shows fresh RBC's and other blood cells entrapped in fibrin clot. Background is haemorrhagic and malignant cells are absent. Abdominal surgery was done and chocolate cyst was removed and sent to histopathology for further investigations.

**Conclusion:** In this study, author mainly focus on expert surgical management and excellent nursing care which leads to fast recovery of patient. After conversation with patient her response was positive and after nursing management and treatment she was discharged without any postoperative complications and satisfaction of recovery.

*Keywords: Chocolate endometrial cyst; abdominal cavity; ascitic fluid; paraumbilical region.*

## 1. INTRODUCTION

Chocolate endometrial cyst is form when endometrial tissue inside the ovarian cyst reacts to monthly hormone. These types of cysts are non-cancerous and because of tissue bleeding it fill the interior of cysts with un-clotted blood. Dark blood which is tarry, black and also thick because of these components it is named as Chocolate cysts another name for endometrial cyst, and chocolate ovarian cyst [1]. This can be treated with temporary pain killer, while heat therapy is also used to relive from the severe cramps hot water bag or bottle is place over lower abdomen to relive from pain, Epsom bath is also helpful in relieving pain. Generally, endometriomas are diagnosed by ultrasonographic examination, but sometimes it is difficult to make a differential diagnosis preoperatively [2]. Endometriosis is a gynaecological entity in which cells from the lining of the uterus (endometrium) appear and flourish outside the uterine cavity, most commonly on the membrane lining the abdominal cavity and the peritoneum [3]. It is common in women, having an overall prevalence of 3 to 10% in the reproductive age group and about 25 to 35% in infertile women, and is responsible for a number of hospital admissions annually. Its origin, however, remains ambiguous if not unknown [4]. Risk factors for endometriosis and chocolate cysts can include Genetics: People with a family history of endometriosis are more likely to get the condition. Retrograde menstrual flow: This happens when period blood travels in the reverse direction, going up the fallopian tubes instead of out of the vagina. Immune disorders: Certain immune system issues, especially autoimmune disorders, may cause endometriosis. Injuries: Damage to the uterus or surrounding structures correlate with an increased risk of endometriosis. These injuries can occur, for example, during caesarean delivery [5].

Endometriosis affects 6 to 10 percent of women during their reproductive years. The majority of women, therefore, receive their diagnosis during this time with the average age being 27 years [6].

Bladder endometriosis is rare. A 2014 study reports that as few as 1 to 2 percent of women with endometriosis may have endometrial growths in their urinary system, and the bladder is the organ most likely to be affected [7].

It is form when endometrial tissues attach and grow in the ovaries, that tissues form a cyst and

may get increase because of menstrual hormones. When endometriosis occurs, the blood accumulates in surrounding tissues which is sac like structure to form cyst [8]. A chocolate cyst can damage and may take upon the healthy ovarian tissue, which may lead to infertility which may be very serious cause these type of cyst are very difficult to treat and this cyst are treated with medication and also by treating it by surgery. This type of cysts may be unilateral or bilateral. It may vary up to 10-15 cm in diameter [9].

The symptoms include abdominal bleeding and cramping, painful menses, more amounts of vaginal bleeding and dark vaginal discharge. There may be heavy bleeding, clots in bleeding and severe pain during menstruation [10]. The endometrial cyst is also prevented and manageable with the diet management of the patient which may help to prevent the development of the cyst which includes foods rich with fibrous such as fruits and vegetables, food rich with iron those are green leafy vegetables, beans nuts and seeds [11]. And the food which may negatively affect endometrial cyst are food containing with more amount of fat which contains more fried items and processed food, red meat, alcohol and caffeine [12].

Between the ages of 21 to 25 years incidence of endometriosis was 18%, 21-30 years which is the optimum age for reproduction the incidence was 55%. Primary infertility was seen in 84.5% subjects [13].

## 2. CASE HISTORY

A rare case of chocolate endometrial cyst was taken, a 24 yrs. old unmarried female was admitted in by Acharya Vinoba Bhave Rural Hospital, Datta Meghe Institute of Medical Sciences, (Deemed to be University), Sawangi (Meghe), Wardha, Maharashtra, India. Her past medical history includes polycystic ovarian syndrome, no any Hospital with chief complaint on abdominal pain at right hypogastric region patient suddenly developed severe abdominal pain. Generalized pain was dull, aching, also had history of multiple episodes of nausea and vomiting, and as she was admitted to the hospital Inj Diclofenac was administered to the patient as it works as pain killer for managing the pain of the patient but the pain was as severe that it could not be treated by the injections. After all primary treatment doctor suggested for investigations like ultrasound sonography, X-ray and blood investigation. The ultrasonography

indicated there is fluid accumulation in abdominal cavity with mass structure in right hypogastric region. Later surgery was done and the fluid which contain RBC's and blood cells with the mass structure which is endometrial cyst is removed from ovary.

Patient belonged to middle class family. Her family members had no any complaints of communicable and non-communicable diseases. She maintained good interpersonal relationship with family members and relatives and neighbours also. Evaluation of her vital statistics revealed a pulse of 110/ min, a blood pressure of 100/60 mm Hg and a temperature of 99.8°F. Per abdominal examination showed tenderness in her lower abdomen, without signs of bowel perforation. Systolic and diastolic blood pressure was 90/60 mm of Hg, while abdominal inspection and percussion it was distended because of fluid accumulation. Overall, this condition was managed by administration of intravenous fluid and antibiotic treatment and later surgery was done. By doing physical examination we found many abnormalities, Physical examination was done of the patient and it concluded that there is abdominal distension when percussion and inspection done. Other than there was no any abnormality was detected. After admission therapeutic treatment is given that is Tab co2, Tab Meftalspas, Tab Tanfix was given. But because of severe pain the pain is not reduced with any medical treatment. And finally, there comes a time when surgical management is the only choice for doctors to do so.

The laboratory test were conducted & results were: Haemoglobin 8.1 gm /dl (12.1-15.1 gm/dl), and total leukocyte count was 15,000 cell/m<sup>3</sup> (5000-11,000 cell/m<sup>3</sup>), urine analysis result was creatinine 2.4 mg/dl (0.6-1.4 mg/dl), and blood urea nitrogen level was 63 mg/dl (8-25 mg/dl), sodium level 135 (135-145 mEq/l) and potassium 4.3 mEq/l (3.5-4.8 mEq/l) and serum albumin level was 2.3 mg/dl. Serum bilirubin was 1.5. Radiologist mentioned in ultrasonography report i.e., Accumulation of fluid and mass structure cyst on ovaries. The ascitic fluid present in abdominal cavity was tested it consist of fresh RBS's and other blood cells entrapped in fibrin clot. Background is haemorrhagic and no malignant cells seen. No any other abnormalities had been found in physical examination.

## 2.1 Pre-operative Care

Bladder was catheterized before surgery as per doctor's order and intake and output is strictly maintain, abdominal girth was recorded every 2 hourly doctors tried to treat this condition with the help of conservative management i.e. Inj Ceftriaxone 1 gm antibiotic intravenously, inj. Metronidazole 100ml antiemetic intravenously, Inj tramadol pain killer in IV drip, InjNeomol 100ml antipyretic intravenously given, but only operation was next choice for surgeon to handle this case and before surgery inform consent was taken from her father. During preoperative care it is not just about the care or preparations but also the psychological support given to the patient before sending him or her to surgery.



**Fig.1. Endometrial cyst**

Laparoscopy (Storz 10 mm 30° laparoscope) was done under general anaesthesia. Intraoperatively, the omentum covered the uterus, with flimsy adhesions over both tubes and ovaries. Tubes, uterus and ovaries appeared hyperaemic. A tubo-ovarian mass was seen in the right ovary. The left ovary and tube appeared Fluid from the POD was sent for culture and sensitivity, that from the cyst wall for histopathology. Histology of cyst wall showed an endometriotic cyst. Unilateral oophorectomy of right side is done.

Post-operatively patient shifted in surgery Intensive care unit; Supine position is given to the patient and abdominal girth was measured every 2 hourlies. Post operatively continuous cardiac monitoring was done, Inj.Peptaz 4.45 gm higher antibiotic intravenously, inj. Metronidazole 100ml antimicrobial intravenously, Inj Pantoprazole antacid 40 mg intravenously, InjEmset 4 mg antiemetic intravenously, Inj Tramadol pain killer in IV drip, Injneomol 100ml antipyretic intravenously given as per doctors ordered.

## 2.2 Nursing Management

Postoperatively patient was under strict observation of on duty staff. Intravenous fluid administered as per calculated. Observed and record the intake and output postoperatively. Blood transfusion were given, care of wound and daily dressing was done. Abdominal girth was taken and maintains intake and output 2 hourly. Vital signs were recorded strictly. In cytology report no malignant cells were found. Overall, her response was positive for treatment and patient condition too improved progressively. The urine output was calculated strictly and catheter was removed after 5 days. Then patient was shifted in surgical ward from surgical Intensive care unit after recovery. Excellent nursing care was given and patient herself reported to nursing staff that, she was very satisfied about nursing care. Complete discharge procedure was explained by nursing staff to the patient and her family members along with medication prescribed at home as advised by gynaecologist. The patient was discharged from ward after 8 days without any complications and instructed to come back to hospital for removal stitches.

Patient visited regularly at gyne OPD when she had instructed for follow up, she had no any complaints, therefore no furthermore evaluation was found.

## 3. DISCUSSION

Endometriosis is a common gynaecological problem which affects 6-10% of reproductive age group women. The presence of endometrial glands and stroma gradually occurs the pelvic pain and also infertility [14]. History of pelvic surgery, cervical stenosis or nulliparity are the risk factors for endometrial cyst. Because of endometrial tissue and it contains haemorrhagic fluid which leads to chocolate colour appearance when it gets rupture. A case of chocolate endometrial cyst was fluid with cyst is accumulated in abdominal cavity. No exact cause was found even after performing through postoperative cytological investigation of abdominal cavity fluid. No any additional medical treatment was given other than intravenous antibiotics and antimicrobial injections [15]. Pain killer and antiemetic was given because of nausea, vomiting and patient is suffering from pain. Majority of chocolate of cyst are rise from ovaries these cysts could be bilateral and they are small and medium of size. Very rare cases found the large size cyst [16]. These types of cysts are hypothyroidism or endocrine, it states that 95% of cyst are not cancerous, but the treatment is required if pain cause severe complications. The cyst can be treated with pain reliever such as acetaminophen or opioids, while in some cases surgery is required which may require to remove cyst from one or both ovaries. It is most common in reproductive age group and in 8% of cases it is developed before menopause. This case report shows a typical presentation of the chocolate cyst. The classical medical features in endometriosis were not bring out in this patient cyclic abdominopelvic pain occurs with menstruation [17]. And then on other side the cyst was attached to fundus of uterus and ovaries remains uninfected. Because of it the cyst develops large in size and it is not common in pelvis. The ultrasonography of abdominopelvic reported of extra ovarian cyst which was confirmed diagnosed after surgery [18].

Endometriosis may cause severe pelvic disorders, there were no any further complications in fallopian tube and ovaries they shown as in normal condition [19, 20].

## 4. CONCLUSION

The authors demonstrate the presence of chocolate endometrial cysts manifesting with clinical features suggestive of ovarian cyst its

grow to large size in presenting diagnostic dilemma. More rarely transvaginal scan is done in gynaecological condition but as advance radiological techniques such as computed tomography scan and magnetic resonance imaging are available to diagnose. Severe pelvic disease not always shows the presence of endometrial chocolate cyst. Endometrial cyst is generally common condition when the endometrial tissues are grown in uterine cavity. The pain occurs severe and may affect ovary if the size of cyst increases. The possibility of an endometriotic cyst should be considered in the presence of persistence adnexal masses after conservative antibiotic management. Its diagnosis is of utmost importance as negligence of the underlying pathology, i.e., endometriosis could lead to recurrence of pelvic infection and more importantly complications secondary to endometriosis. After all possible management patient shows the good prognosis and discharge was given after 5<sup>th</sup> postoperative day. Histopathology and cytological findings show normal result.

## DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

## CONSENT

While preparing case report and for publication patient's informed consent has been taken.

## ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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