



ENDOMETRIUM UNVEILED: COMPREHENDING THE OVARIAN CHOCOLATE CYST- A REVIEW

Medical Science

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ABSTRACT

Chocolate cysts are abnormal, noncancerous sac-like structures loaded with menstrual old blood due to endometriosis within the ovaries, which appears as liquefy chocolate, correspondingly known as ovarian cysts. In 1921 the word chocolate cyst was used by Sampson to introduce an endometrial cyst of the ovary. This state appears due to the emergence of endometrial-like tissue outside the uterus embedded within the ovaries, fallopian tube, or uterus. The most common thesis is that endometriosis happens because some of the endometrial-like tissue that you shed when your menstrual flow backward (retrograde menstruation) According to the American Society for Reproductive Medicine (ASRM), it is divided into four stages of endometriosis. It depends on the size, attributes, location, and depth of endometrial-like tissue implants. The definition of atypical endometriosis is controversial and still unclear, but it directly sign to ovarian endometriosis associated with carcinoma. Endometriosis causes three major clinical manifestations: pain, infertility, and malignant transformation.

KEYWORDS

Endometriosis, Retrograde Menstruation, Biopsy, Infertility, Atypical Endometriosis, and Trans-vaginal ultrasound.

INTRODUCTION

Everything about chocolate is lovely, as far as a chocolate cyst seen in female ovaries.

A chocolate cyst is defined as an abnormal, noncancerous, sac-like structure loaded with dark old menstrual blood that appears as a liquefied, so-called chocolate cyst within the ovaries due to endometriosis. Chocolate cysts are very common in those with ovaries. It can vary in size, ranging from 2 to 20 cm in diameter. Dr. Prabha Agrawal, Senior Consultant Obstetrics and Gynecology, Laparoscopic Surgeon, CARE Hospitals, HITEC City, Hyderabad, said that in India, over 42 million women are affected by endometriosis. Endometriosis was first delineated by Dr. Charles Von Rokitansky in the mid-19th century. If we compare the uterus to a rose apple, the endometriosis the soft flesh on the inside of the apple, along with the pulp and fiber.

Ovarian Cysts Are Of Two Types:

Functional ovarian cyst: ex follicular cyst, corpus luteum cyst

Pathological ovarian cyst: ex dermoid cyst, endometriosis

During every menstrual cycle, the ovaries grow small cysts called follicles, which contain clear fluid. After ovulation, follicles release eggs, which constrict and lead to the formation of corpus luteum cysts, which produce estrogen and progesterone. Both follicular cysts and corpus luteum cysts are functional ovarian cysts that vanish in about 2 weeks. Non-functional or pathological cysts are less common without the impact of hormones. The doctor preferred to examine the cyst and operate to remove it. Chocolate cyst mainly occurs in ovaries but sometimes it can occur in pelvis and uterus. There was a case where the patient was born with a large clitoris that resembled the penis and was mistaken for a male. A huge mass of chocolate cysts was present in the pelvic cavity of the patient, and the right ovary was absent known as pseudo hermaphroditism.

According to ASMR, stages of endometriosis are classified into 4 stages on the basis of size, shape, and depth of implantation:

Minimal: small bruises or surface implants.

Mild: More and bigger implants than in Stage 1, along with some scar tissue.

Moderate: numerous implants, deeper bruises, and more scar tissue.

Severe: large implants, deep bruises, and significant scar tissue, often involving many organs.

During pregnancy, the ectopic endometrium holds the substitute of rising glandular epithelial secretion, stromal vascularity, and edema under hormonal action, which is defined as decidualization. The visibility of nodules with contrast agents is a first-line finding for malignant transformation of ovarian endometrioma. This condition is rare which may seems as ovarian malignancies in sonography.

Mechanism Of Action

Its mechanism of action is still unclear, but immunological theory is mostly accepted. Endometriosis is a common hormonal ailment in which the endometrium and ectopic endometrial tissue emerge in the creases of the uterus, ovaries, and endometrium layer, which can lead to inflammation, bleeding, irritation, and infertility as well. The universally accepted thesis for evolving endometriosis is due to retrograde menstrual flow. During every menstrual cycle, endometrial tissue alike condenses, breaks down, and bleeds. As a result of retrograde menstruation, it cannot exit, leading to blood accumulation within the ovaries. Endometrioma accommodates free iron, reactive oxygen species (ROS), proteolytic enzymes, and inflammatory molecules. In concentration more than in other types of benign cysts, leading to severe symptoms including pelvic pain, pain during intercourse, and fertility issues. There are various theories that are not yet clear.

Diagnosis

Nowadays, the advancement of technology in the medical field makes the diagnosis of certain diseases effortless. Diagnosing a chocolate cyst requires a physical examination, a blood test like cancer antigen-125, and some imaging tests like MRI, CT scan, ultrasound, especially trans vaginal ultrasound, along with aqua blue excision techniques in which and laparoscopy to see the size, shape, and location but can't identify the type of cyst. To test if the cyst is benign or malignant, a biopsy is done, where a small needle is inserted through the vagina and fluid is extracted to be examined by a pathologist.

Treatment

First-line treatment of chocolate cysts If the cyst is minimal and doesn't have any symptoms, then hormonal medications like oral contraceptives, progesterone, androgen, and gonadotrophin-releasing hormones are used to inhibit ovulation and suppress the pain but can't completely treat it. If the patient has severe pain, a cyst > 4, and it doesn't get better with medicine, then ovarian cystectomy is the only option in which the cyst is removed through surgery via laparoscopy, known as keyhole surgery. If your test report shows a cyst is cancerous, and then the ovaries, uterus, and surrounding tissue may need to be removed, which means you will lose your fertility.

Complications

Like every procedure, it has both pros and cons. Chocolate cysts can

lead to several complications, listed below:

Rupture
Ovarian cancer
Infertility
Ovarian torsion

Does a chocolate cyst really lead to infertility?

It can cause ovulation dysfunction, which accounts for around 25% of female infertility, but it is significant to recall that endometrioma does not necessarily cause infertility. In fact, some women with advanced endometriosis and chocolate cysts easily get pregnant. After the biopsy examination, if the test shows the cyst is malignant or cancerous, then it can lead to infertility because surgical intervention is most likely where both the ovaries, uterus, and surrounding tissues might required to be removed. Pregnancy-related changes in ovarian endometrioma leading to vascularized vegetation that resemble malignancies are rare, but they can. In this case, according to the report, a decidualized ovarian endometrioma can be seen as a malignant transformation during pregnancy.

CONCLUSION:

Although ovarian cysts are harmless, if a cyst causes the ovary to crumble, it can lead to a lack of blood supply to the ovaries and cause permanent damage known as adnexal torsion. In the event that a chocolate cyst ruptures, it can cause severe stomach and pelvic pain in the area where the cyst ruptures. Both adnexal torsion and cyst rupture are medical emergencies; seek medical attention immediately. If you experience any pelvic pain, then immediately consult the doctor. Meanwhile, ovarian follicles can evolve and grow into chocolate cysts. An instance occurred where a patient named Kayla Rahn was having severe stomach pain and was initially told to lose weight, but after the surgery, a 50-pound ovarian cyst was found in Jackson Hospital. According to Dr. Gregory Jones although a cyst is benign, a cyst of this size can cause serious complications. If a person develops a large mass, they can develop something called abdominal compartment syndrome.

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