PANEL DISCUSSION

- SOLVING THE ENIGMA OF ENDOMETRIOSIS FROM ADOLESCENCE TO MENOPAUSE
- MODERATORS
- DR J B SHARMA,DR CHANDAN KACHRU
- EXPERTS-DR SNEHA BHUYAR,DR NUTAN JAIN
- PANELISTS-,DR ANITA RAJHORIA,DR NEHA MISHRA,DR JAYSHREE SUNDER,DR SUREKHA,DR MALVIKA,DR ANU SIDANA,DR DIPTI NABH

ADOLESCENT ENDOMETRIOSIS

- Endometriosis is a common gynecological disorder thought to affect around 64% of adolescents with pelvic pain undergoing gynecological investigation.
- It was first described in adolescents as early as the 1940s.Although more than 4 million women and people assigned female at birth have been diagnosed with the disease, population-based studies show that an estimated 6 of 10 cases are undiagnosed.

INCIDENCE

- It has been shown that dysmenorrhea occurs in 16% to possibly as high as 93% of adolescent girls and is the leading cause of recurrent short-term school absence in this age group.
- A survey analysis demonstrated that women with endometriosis often begin to report symptoms in their adolescence, with 70% of the patients reporting before age 20 and nearly 40% before 15 years old.

Challenges in diagnosis

- Recent evidence points out that it takes around 8 years to diagnose this disorder and the median delay in diagnosis increases if the symptoms are present in adolescence.
- The lack of pathognomonic features or biomarkers, the absence of an accurate and sufficient non invasive diagnostic test, and the variability in symptom patterns over time are major challanges

Case discussion

- A 14-year-old girl was referred to a gynaecologic consultation for dysmenorrhea.
- She is not sexually active and she had her first period at the age of 12 years.
- She experiences dysmenorrhea at grade 8 of 10 on the 10-point visual analogue scale (VAS), ovulatory pain (VAS 7), and localized and deep abdominal tenderness (VAS 7).
- Regarding her menses, she has a normal menstrual bleeding, while she reports period of constipation and diarrhea.

EXAMINATION

- Clinical evaluation revealed no systemic disease and no previous surgery; her mother is taking a progesterone therapy for endometrioma and deeply infiltrative endometriosis in the rectovaginal space evaluated with non invasive imaging.
- At physical examination, WE found acne on her back and the abdominal examination revealed mild tenderness in the low pelvic area.
- Her body mass index was 24.9 kg/m2 (height, 159 cm; weight, 63 kg). During her menstrual period, she often takes nonsteroidal anti-inflammatory drugs and she often misses days of school for dysmenorrhea.

What should be our clinical approach to this adolescent

DR ANU SIDANA/DR SNEHA

Clinical Approach to the Adolescent Patient

- The first assessment for all patients reporting of dysmenorrhea or pelvic pain includes medical, gynecologic, menstrual, family, and psychosocial history.
- It is important to determine whether the patient has primary dysmenorrhea or additional symptoms suggestive of secondary dysmenorrhea, given that endometriosis represents the main cause of secondary dysmenorrhea in adolescents.
- According to ESHRE guidelines, suggestive manifestations for endometriosis include early menarche, severe dysmenorrhea, dyspareunia, abnormal uterine bleeding (heavy or irregular bleeding), midcycle or acyclic pain, resistance to empiric medical treatment (painkillers and hormonal therapy), and gastrointestinal and genitourinary symptoms

Reasons for diagnostic delays

DR jaishree

Reasons for diagnostic delay in adolescents with endometriosis

- Normalization of menstrual pain,
- Fear of stigmatization regarding a gynecologic complaint,
- Minimization of symptoms reported by patients by medical professionals

IS EXAMINATION OF ADOLESENT DIFFERENT FROM ADULT

- DR JAISHREE SUNDAR

HOW TO EXAMINE THE ADOLESCENT

- HEADSS SCORE
- The HEADSSS assessment is a psychosocial interview framework used to assess adolescents.
- It stands for Home, Education/Employment, Eating, Activities, Drugs, Sexuality, Suicide/Depression, and Safety.
- It provides a structured approach to gathering information about an adolescent's life and potential risks or needs.

PHYSICAL EXAMINATION

- Dr NEHA MISHRA

Physical Examination

- Physical examination includes bimanual vaginal examination and inspection of vagina and cervix (rectal examination in non sexually active patients).
- Palpation of adnexal masses and thickening or retraction of uterosacral ligaments (USLs) and nodules in the rectovaginal septum may reveal endometriosis.
- According to ESHRE guideline, this procedure should be discussed with the adolescents and her caregiver (Good Practice Point [GPP]) because it is also useful to rule out other causes of secondary dysmenorrhea and pelvic pain

Types of dysmenorhoea

DR DEEPTI

Painful Symptoms and Differential Diagnosis

- Adolescent patients who report dysmenorrhea should be evaluated for gynecologic and not gynecologic reasons of CPP
- On the basis of pathophysiology, dysmenorrhea is classified as primary dysmenorrhea (menstrual pain without organic disease) or secondary dysmenorrhea (menstrual pain associated with underlying pelvic pathology)

MENTAL HEALTH AND ADOLESCENCE WRT ENDOMETRIOSIS

DR SUREKHA

Psychologic Impact of Pain in Adolescence

- Young patients with endometriosis are often told to lessen physical activity and they are forced to spend a lot of time in bed, resting, with feelings of helplessness.
- Considering the social role attributed to sports, it is not uncommon for them to feel out of the group and alone.
- SEXUAL PROBLEMS
- The fear of feeling pain during intercourses represents a cause for frustration to these girls and sometimes it can be the cause of broken relationship
- Education is an important issue that should not be underestimated in affected teenagers.
- Zannoni et al conducted a survey among adolescents, showing a significant association between severe dysmenorrhea and absenteeism from school, with the possibility of poor academic performance.
- These factors are responsible for the development of feelings of depression, low self-esteem, hopeless, frustration, disappointment, fear, anger, and exhaustion

MANAGEMENT-IMAGING

DR DEEPTI NABH

Role of Imaging to Suspect Endometriosis in Adolescence

- **Transabdominal Ultrasound**
- The first step in the diagnostic process investigating a puberal patient who is suspected of having endometriosis is the ultrasonographic approach
- Ultrasound examination is commonly performed in the lower abdominal wall using a well-filled but not overdistended urinary bladder as a sonographic window
- The abdominal ultrasound is able to diagnose ovarian endometriotic cysts or endometriomas but is not useful for nonovarian endometriotic lesions

Imaging

- Transabdominal rather than transvaginal ultrasound (TVS) should be ordered in non sexually active adolescents.
- A transrectal approach may be considered in adolescents with an intact hymen, given that it is essentially atraumatic if performed carefully
- Three-dimensional ultrasound can be considered as the gold standard to detect obstructive and nonobstructive mullerian anomalies

TVS

- The use of TVS can often be impossible in adolescent girls for their virginity or vaginal pathology as hypoplasia or agenesis, but transrectal sonography can be considered an optimal alternative.
- The use of MRI if the patients or their parents are opposed or unconvinced to this approach (GPP) was recommended.

MRI

- Magnetic resonance can be useful to detect obstructive reproductive tract anomalies and to identify and character- ize endometriotic lesions that are difficult to locate by ultra- sound (GRADE 1, strong recommendation).
- Computed tomography should be reserved for urgent evaluation given concerns about radiation exposure
- MRI is a second-level examination, and it cannot be indicated as first choice to evaluate the disease (GRADE 1, strong recommendation).

THIS PATIENT

- Transabdominal ultrasound was done where the radiologist highlighted a 38-mm cyst on the left ovary with ultrasound features suggestive of an endometrioma.

DIFFERENTIAL DIAGNOSIS –

DR ANITA RAJORIA

Differential Diagnosis with Gastrointestinal Pathologies

- The incidence and prevalence of deep infiltrating endometriosis (DIE) in adolescence is not known but it is probably not common .
- Bowel complaints in adolescents with endometriosis range from 2% to 46% , less frequent than in adults
- When an adolescent complains of bowel symptoms, the physician must also take into consideration several organic gastrointestinal pathologies.
- Nearly 20% of inflammatory bowel diseases are diagnosed in children and adolescents , often with more severe presentations including puberty and growth delay, weight loss, bloody diarrhea

Differential Diagnosis: Mullerian Anomalies

- Congenital uterine anomalies may lead to symptoms that often overlap with the clinical manifestations of endometriosis, such as CPP, dysmenorrhea, and prolonged or abnormal bleeding at the time of menarche.
- An association between obstructed mullerian anomalies and the development of endometriosis has been reported in 40% of cases.
- According to Sampson's theory , pelvic distortion and obstructive mullerian anomalies may favor large amount of retrograde menstruations that may increase the severity of endometriosis.
- The use of magnetic resonance imaging (MRI) has become the gold standard as a tool in accurately outlining uterine presence, size, and anatomy and other associated anomalies (kidneys, spinal cord) (GRADE 1, strong recommendation).

Differential Diagnosis: Recurrent Infections

- A dysbiotic gut or genital microbiota is associated with multiple gynecologic conditions, with mounting data supporting an association between the microbiome and endometriosis and infertility.
- These microbiomes likely play a role in the gut-brain axis, which further supports a putative association with the spectrum of symptoms associated with endometriosis, including infertility and CP

Adenomyosis

- Adenomyosis is characterized by the presence of ectopic endometrial epithelial cells and stromal fibroblasts in the myometrium, in which they lead to hyperplasia and hypertrophy of smooth muscle cells surrounding them.
- In evaluating a symptomatic adolescent girl, although it may be a rare condition, it is mandatory to exclude or to confirm the diagnosis of adenomyosis

TREATMENT

Dr jyoti bhasker/DR ANITA RAJHORIA

Medical Treatment in an Adolescent Patient

The goals of medical therapy in the adolescent patient include symptomatic relief, suppression of disease progression, and protection of future fertility

The patient and her family should be involved and adequately counseled in

the choice of the therapy is based according to the need of contraception, contraindications to hormones, and potential adverse effects of different medications.

Dysmenorrhea in adolescents is commonly treated empirically with nonsteroidal anti-inflammatory drugs and/or combined oral contraceptive pill, and both primary and secondary dysmenorrhea could respond to this therapy

PROGESTINS

Oral: dienogest 2 mg/day and norethindrone acetate 15 mg/die , both effective and well tolerated in adolescents; in particular, dienogest is effective for the treatment of endometriosis, reducing the dimension of endometriotic foci and their vascularization and decreasing endometriosis-related CPP combining several beneficial effects of the 19-norprogestin and progesterone derivative classes, including high specificity for the progesterone receptor and negligible binding affinities for estrogen, androgen, glucocorticoid, and mineralocorticoid receptors

Intrauterine device: levonorgestrel-releasing intrauterine system could be a valid option in older and sexually active adolescents, especially if it is inserted during a laparoscopy for endometriosis as long-term maintenance .

The real limit of progestins use in adolescents seems related to a possible reduction of bone mineral density, partially reversible after their suspension, which may interfere with the peak of bone mineralization

GNRH AGONISTS

- The use of gonadotropin hormone-releasing hormone agonists is acceptable in adolescents only if the patient with known endometriosis is refractory to other medical therapies or surgical treatments (GRADE 2, weak recommendation).
- Their effectiveness is caused by the suppression of the hypothalamic-pituitary axis, which results in a hypoestrogenic environment.
- DON’T USE BELOW 16 YRS OF AGE
- There is not a single best treatment for endometriosis in adolescents: therapy must be tailored to the patient to achieve a good quality of life.

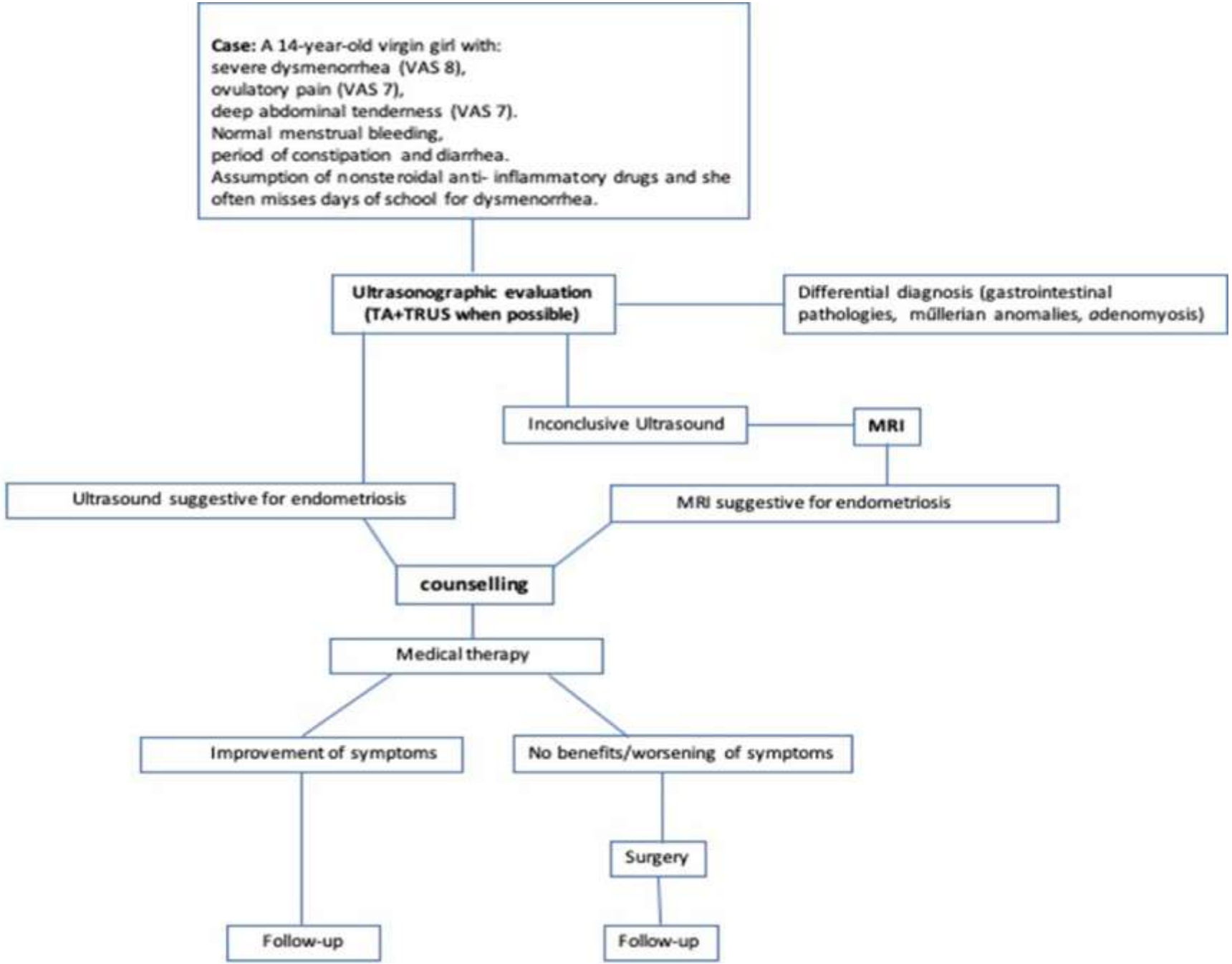
Is There a Place for Surgical Treatment?

- The surgical removal of an endometrioma in an adolescent girl should be considered in the case of progressive enlargement of the ovarian cyst or persistence of pain symptoms despite hormonal treatment or in case an ovarian malignancy cannot be ruled out at ultrasonographic evaluation or MRI
- In the treatment of the ovarian cyst, it is of paramount importance to adopt all surgical strategies for the preservation of ovarian reserve
- When necessary, hemostasis must be achieved by very selective pinpoint cauterization of bleeding vessels or by means of re-approximation of ovarian edges by atraumatic sutures not involving the ovarian hilus.
- the use of radical excisional surgery for superficial endomeriosis may increase extensive adhesive formation, and it should not be used in the adolescent population

FOLLOW UP AFTER SURGERY

- Because repeated ovarian surgeries can be harmful on ovarian reserve and hormonal therapy can prevent endometrioma recurrence, all adolescents should undergo medical treatment after surgery until they have completed child bearing

Decisional algorithm



TAKE HOME MESSAGE

- Awareness among adolescents, parents, and their health- care providers about endometriosis represents a crucial point to facilitate a proper treatment and appropriate clinical follow-up.
- Medical therapy is the first choice for symptomatic endometriosis in adolescent population, considering the surgical approach only for selected cases or for patients unresponsive to medical treatment
- Early diagnosis and treatment is important

CASE 2

- A 35-year-old medically free, multiparous woman presented with abdominal pain and spontaneous bleeding over her previous cesarean section scar. She also noticed a lump that had developed over the scar that was associated with hyper-pigmentation.
- Her symptoms began 1 year ago and had been increasing in intensity over the last 6 months, with a cyclical pattern.
- She was not known to have endometriosis previously and her menstrual history was unremarkable.
- Her surgical history was positive for 1 cesarean section that occurred 4.5 years ago.

EXAMINATION

- On examination we found a non-mobile, hyperpigmented mass, approximately 3×2 cm in size, protruding at the left corner of the Pfannenstiel incision scar, that was tender on palpation, with a 5-cm indurated area surrounding the mass

DD

- Our differential diagnoses were surgical scar endometriosis, abscess, and complicated surgical scar hernia.

ROLE OF IMAGING IN SCAR ENDOMETRIOSIS

- DR SUREKHA
- Ultrasound/MRI ????

MRI

- A magnetic resonance imaging (MRI) scan of the pelvis with contrast was performed and the findings were a 3×3×3.5 cm left lower abdominal wall soft-tissue mass with dark T2 and T1 signal and homogenous post-contrast enhancement.
- There were minor cystic changes in the mass.
- There was invasion to the skin but not to the rectus muscle.
- There also was a 1×1.5 cm mass with similar appearance inseparable from the left rectus sheath laterally.
- There were no signs of deep pelvic endometriosis

EXTRAPELVIC ENDOMETRIOSIS
TYPES OF ENDOMETRIOSIS

- DR MALVIKA

Different sites of extrapelvic endometriosis

- Pelvic sites include the ovaries, uterosacral ligaments, ovarian fossa, and pouch of Douglas
- Extrapelvic sites include the abdominal wall, groin, perineum, kidneys, liver, lungs, and pleura ,SOMETIMES NOSE

TYPES

- Cutaneous endometriosis is defined as the presence of endometrial glands and stroma in the skin and can be divided into both primary and secondary cutaneous endometriosis .
- Primary cutaneous endometriosis occurs spontaneously, and its etiology is unclear .
- Secondary cutaneous endometriosis is caused iatrogenically by surgical procedures of the abdomen or pelvis that result in endometrial tissue implantation into the skin

MEDICAL MANAGEMENT OF SCAR ENDOMETRIOSIS

DR REEMA GOEL/DR JAISHREE

Medical management

- Treatment of scar endometriosis can be either medical or surgical. Hormonal treatment was found to be only temporarily beneficial and symptoms recurred as soon as the medication was stopped. Surgery remains the only curative treatment .
- Hormonal treatment (combined oral contraceptives, progestogens, and hormone suppression therapy with gonadotropin-releasing hormone (GnRH) analogs) still has a role in pre- and post-operative management.
- It can be used as an alternative in patients who do not want surgery, and can also be used as an adjunct before surgery to shrink large endometriomas. Postoperatively, it can be used to prevent recurrence

SURGICAL MANAGEMENT

DR ANU SIDANA/DR NUTAN

LAP/OPEN SURGERY

SURGICAL EXCISION IS THE GOLD STANDARD

Laparoscopic Techniques for Scar Endometriosis:

- **Uterine Scar Repair:**
- In cases of CSE, laparoscopy allows for repair of the uterine scar defect (isthmocele)by excising the abnormal tissue and reconstructing the uterine wall.
- **Reconstruction:**
- If necessary, reconstruction of the abdominal wall or umbilicus may be performed after excision of the endometriosis, particularly in cases where wide excision is required.

LAP TECHNIQUES

- **Trocar Site Management:**
- Laparoscopic trocar site endometriosis can be managed by excising the affected tissue and potentially using ENDO BAGS to remove specimens from the abdominal cavity and washing the incision site to minimize the risk of recurrence

Benefits of Laparoscopic Approach:

- **Minimally Invasive:**
- Smaller incisions mean less pain, scarring, and a quicker recovery compared to open surgery.
- **Accurate Diagnosis:**
- Laparoscopy allows for direct visualization and biopsy of the endometriotic tissue, aiding in accurate diagnosis.
- **Complete Excision:**
- Laparoscopic techniques enable surgeons to achieve complete excision of the endometriotic lesions, potentially leading to better symptom relief and reduced recurrence.
- **Improved Cosmetic Outcomes:**
- Smaller incisions result in less visible scarring.

Should we use a mesh?

- Surgery in cases of large endometrioma removal may necessitate the usage of propylene mesh to prevent incisional hernias

Percutaneous Imaging-guided Cryoablation of Endometriosis Scars of the Anterior Abdominal Wall/ROBOTIC MANAGEMENT OF SCAR ENDOMETRIOSIS

DR NUTAN JAIN

CASE 3

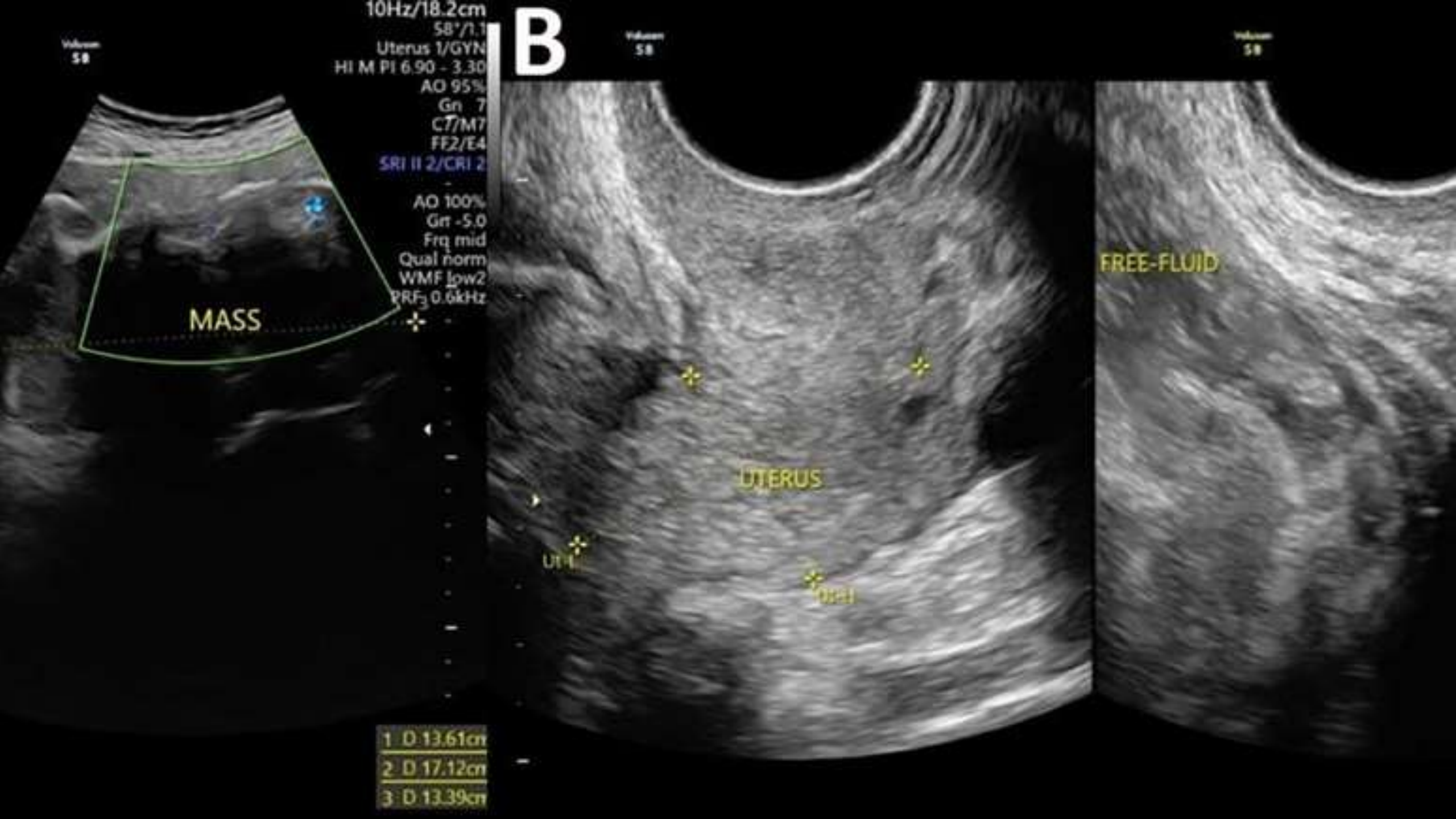
- A postmenopausal woman, in her 60s, categorised as obese (weighing 59 kg and 150 cm tall), with no history of pregnancy, presented to our facility with an abdominal mass of 2 months duration that progressively increased in size.
- She denied any vaginal bleeding or abdominal pain. The patient noticed a decline in appetite and body weight by 6 kg within the last 2 months.
- The patient had neither urination nor defecation disturbances. She had no personal or family history of endometriosis and malignancy.

EXAMINATION

- Physical examination revealed a mobile abdominal cystic mass measuring approximately 20×20×10 cm, accompanied by ascites.
- No abnormality was found in any haematological or biochemical panels.

Investigations

- Transabdominal and transvaginal ultrasonography results showed a hypoechoic mass measuring >14.60×12.55 x13.51×11.49 cm, with septa and papillary projections, and a colour score of +2.
- Ascites was also detected.
- The uterus and contralateral adnexa were difficult to identify due to the large mass.
- Based on the IOTA Simple Rules, this mass would be classified as malignant, because it meets the criteria for M2 (ascites) and M4 (irregular multilocular solid tumour ≥100 mm) features
- Serum markers for cancer antigens (cancer antigen 125, cancer antigen 19-9) were within normal limits.

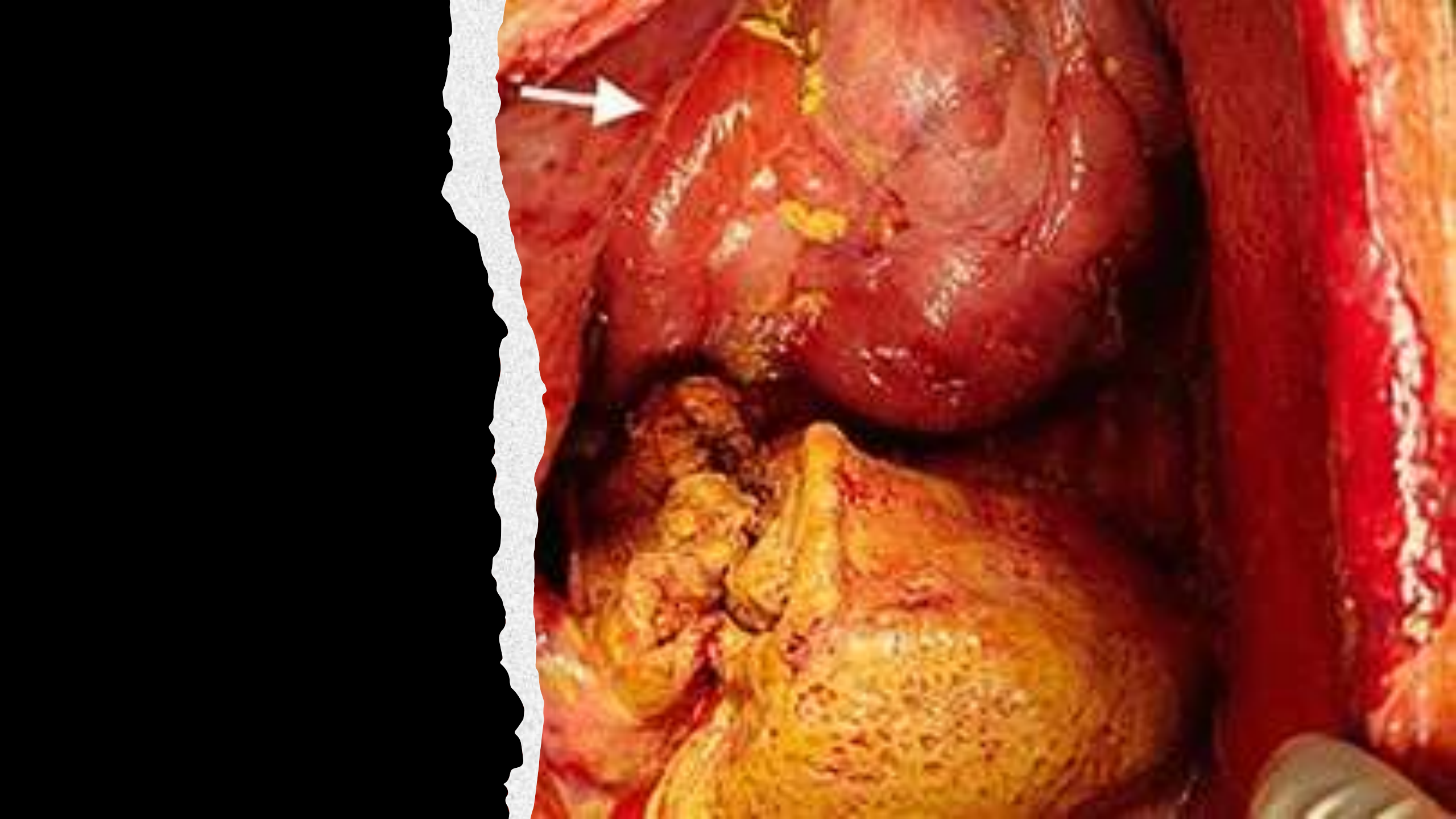

10Hz/18.2cm
Uterus 1/GYN
AO 95%
AO 100%
Frq mid
Qual norm
MASS
B
UTERUS
FREE-FLUID
1 D 13.61cm
2 D 17.12cm
3 D 13.39cm

TREATMENT

- Due to suspicion of ovarian cancer, a laparotomy was performed. During the operation, approximately 1600 cc of yellowish ascitic fluid was found.
- On further exploration, a yellowish cystic mass measuring 21×22×10 cm with an irregular surface was spotted.
- This mass originated from the right ovary and was adhered to the uterus, rectum, sigmoid colon, and lateral and posterior peritoneal wall
- Furthermore, an irregular surface mass measuring 8×7×5 cm was found, which originated from the left ovary.

MANAGEMENT

- A total hysterectomy and bilateral salpingo-oophorectomy, then sent for a frozen section examination
- The frozen section result revealed an endometrioma of the right ovary.
- Histopathological examination confirmed the diagnosis of bilateral ovarian endometrioma, and there was no evidence of malignancy in the uterus.



PREVALANCE OF ENDOMETRIOSIS IN MENOPAUSE

DR DIPTI NABH

PREVALANCE OF ENDOMETRIOSIS IN POST MENOPAUSAL WOMEN

- Endometriosis in postmenopausal women is rare, with an estimated incidence of 2–5%.
- It typically occurs in individuals who have undergone hormone replacement therapy (HRT) and is rarely found in those without a history of HRT or tamoxifen treatment.
- Postmenopausal endometriosis is mostly found in the ovaries, accounting for approximately 79% of cases, as in our case.

HRT AND ENDOMETRIOSIS

DR MALVIKA

HRT

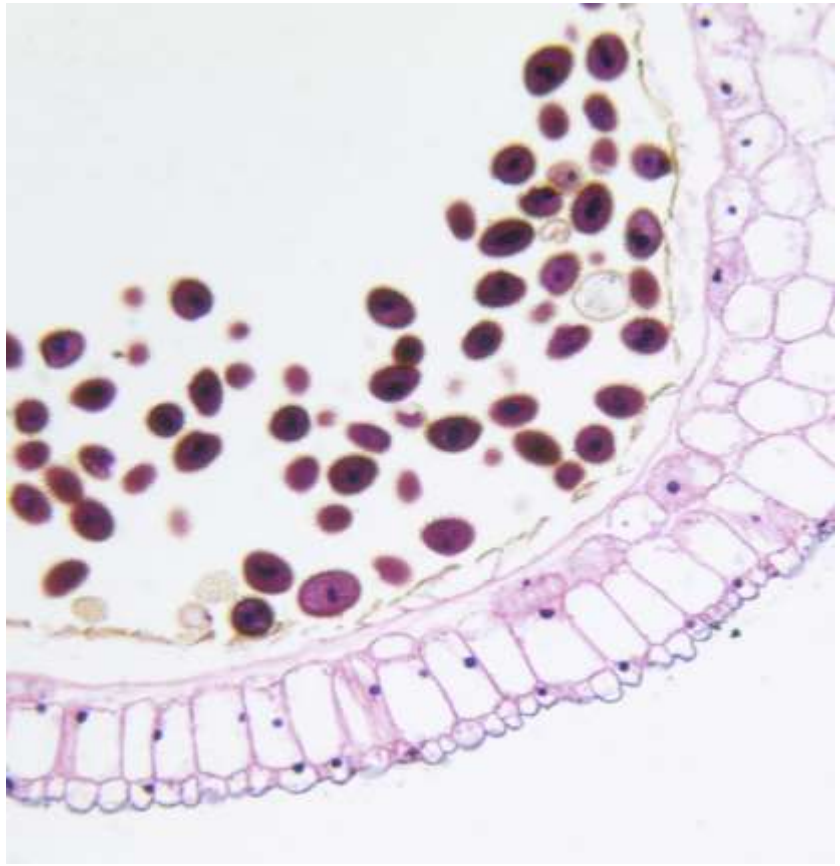
- Endometriosis in postmenopausal women is rare, with an estimated incidence of 2–5%.
- It typically occurs in individuals who have undergone hormone replacement therapy (HRT) and is rarely found in those without a history of HRT or tamoxifen treatment.
- Postmenopausal endometriosis is mostly found in the ovaries, accounting for approximately 79% of cases, as in our case.

POST MENOPAUSAL ENDOMETRIOSIS

- The mechanism of postmenopausal endometriosis is even more complex.
- Postmenopausal endometriosis can occur as either a recurrence or continuation of premenopausal disease or as a de novo condition.
- De novo endometriosis, as in our case, often develops in obese patients or those receiving HRT

HRT

- Oestrogen stimulates endometrial proliferation and ectopic lesions can enhance oestrogen sensitivity, thereby increasing the risk of developing endometriosis.



HRT

- Endometriosis in postmenopausal women who are receiving HRT should always be considered, especially those who received unopposed oestrogen therapy.
- Clinicians prescribing HRT to postmenopausal women should be aware of this condition.

OBESITY AND ENDOMETRIOSIS

DR ANITA RAJHORIA

RELATIONSHIP OF OBESITY WITH ENDOMETRIOSIS IN MENOPAUSE

- Our patient is a postmenopausal woman in her 60s who has never received any form of HRT and is obese.
- Following the cessation of oestrogen production at the ovaries, peripheral oestrogen production from androgen conversion (particularly in adipose tissue and skin) takes over.
- Obese postmenopausal women have more adipose tissue, which leads to higher levels of endogenous oestrogen and an increased risk of endometriosis.
- Another rationale for our case is that she may have had undiagnosed endometriosis during her premenopausal years.

BIOMARKERS IN MENOPAUSAL ENDOMETRIOSIS

DR DEEPTI NABH

ROLE OF BIOMARKERS IN DIAGNOSIS IN PM PERIOD

- There is no specific serum biomarker for endometriosis.
- Several biomarkers, including CA-125, cytokines, angiogenic and growth factors, are known to increase in women with endometriosis.
- These biomarkers are non-specific and can also be found in other pathologies, including malignancies.

MANAGEMENT

DR NEHA MISHRA

MANAGEMENT

- Surgery is the mainstay first-line treatment for endometriosis, particularly in cases of new-onset endometriosis.
- According to the RCOG Green-top Guideline No 62, adnexal masses of 5 cm or more require evaluation and excision if they do not resolve spontaneously in postmenopausal women.
- The European Society of Human Reproduction and Embryology guideline on endometriosis states that laparoscopy is the gold standard for diagnosing endometriosis, even in postmenopausal women.

ENDOMETRIOSIS AND MALIGNANCY

DR JAISHREE SUNDER

ENDOMETRIOSIS AND MALIGNANCY

- Recurrences are common following surgical therapy; therefore, second-line drugs (such as progestogens, aromatase inhibitors, etc) should be considered.
- Postmenopausal endometriosis carries a risk of malignant transformation.
- According to Kobayashi *et al*, approximately 0.72% of patients with ovarian endometriomas develop ovarian cancer, with a higher risk in postmenopausal women.
- This risk increases with age, with studies showing that up to 2–3% of ovarian endometriomas in postmenopausal women may undergo malignant transformation.
- Therefore, comprehensive follow-up after surgery is recommended in such cases.

Outcome and follow-up of our patient

- Around 2 weeks after the surgery, the patient visited the outpatient clinic without any complaints, and the surgical wound had completely healed. We explained that the pathology results showed a benign lesion of the ovary, which still carried a risk of recurrences and malignant transformation.
- The risk of malignant transformation might originate from microscopic lesions from the ruptured mass during surgery. Therefore, we suggested that the patient undergo routine gynaecological examinations every 3 months for at least 5 years.