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MULLERIAN INCLUSION CYST –A RARE FORM OF EPITHELIAL INCLUSION CYST

Surgery

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ABSTRACT

Mullerian inclusion cyst is a rare entity. It is defined as a cystically dilated glandular structure within ovarian cortex also known as epithelial inclusion cyst . It is caused due to invagination of surface epithelial lining of ovary or implantation of tubal epithelium . Our patient is a 16year old female presented with complaint of lower abdominal pain and was investigated for the same and then operated and finally diagnosed with Mullerian Inclusion Cyst.

KEYWORDS

INTRODUCTION-

Mullerian inclusion cyst also known as Epithelial inclusion cyst are the cystically dilated glandular structures found within the ovarian cortex and are formed either due to invagination of ovarian surface lining epithelium known as Peritoneal Inclusion Cyst or by implantation of fallopian tube epithelium at ovulation when the ovarian surface epithelium is disrupted known as Mullerian inclusion cyst.Patients are usually asymptomatic . Mullerian inclusion cyst can present in any age but commonly seen in postmenopausal women.Most common site of occurrence is ovary. Majority present with a multicystic glandular structure in the pelvic cavity intraoperatively either attached to ovary or freely floating .They are usually benign but are considered as precursor lesion of ovarian serous carcinoma. Use of oral contraceptives reduces the risk of Mullerian inclusion cyst.There are two types of epithelial inclusion cyst. Type-I is Peritoneal inclusion cyst, that is lined by simple flat epithelium and is formed due to invagination of ovarian surface lining epithelium which then undergoes metaplasia. Type-II is Mullerian inclusion cyst that is lined by simple cuboidal to columnar, ciliated epithelium and are formed due to implantation of tubal epithelium during ovulation which then undergoes metaplasia to form mullerian type tissue.

CASE-

A 16year old female patient came to the surgical Opd with chief complaint of lower abdominal pain since 1 month which was not associated with nausea ,vomiting ,burning urination. No any complaint of irregular or heavy menstrual bleeding was there and her cycles were normal of average 28 days cycle with 4 days of bleeding.Per abdominal examination was done and mild tenderness was found in lower abdomen with no any palpable mass .Patient was admitted for the same and haematological investigations were done with hemoglobin-11.2 gm/dl , total leucocyte count- 6600/mm3 and platelet count – 2.42 lacs/ uL . USG-abdomen was done showing a well defined multiseptated cystic lesion of size (20 x 11 x 18)cm in the pelvic cavity , bilateral lumbar and bilateral iliac fossa regions respectively.Then CECT-abdomen with pelvis was done and reveals a well defined multiloculated thin walled cystic lesion involving abdominal and pelvic cavity of size (9.5 x 20 x 22.2)cm (HU-15-20) with normal uterus and bilateral ovaries showing multiple follicles of variable size .Then she was operated for the same and undergone exploratory laparotomy as pain was intractable and there was no any response to medical therapy .Intraoperative findings were identification of a large multiple cystic lesion brownish to blackish in colour in abdominal and pelvic cavity with multiple septa and no any connection of the lesion with either of the ovaries was found . The cystic lesion was attached to small bowel via adhesions .

Adhesions were lysed and blunt dissection was done to separate the cystic lesion from the bowel. .Uterus and bilateral fallopian tubes were normal and an ovarian cyst of size (3 x 2) cm was found on right side and a cyst of size(2 x 2) cm was found in left ovary. The specimen was excised completely and sent for histopathological examination Then drain was placed in Morrison pouch and pelvic cavity followed by mass closure of the wound.Post-operative events were satisfactory with no any complications found. On post-operative day 9- wound was seen and alternate suture removal was done and Morrison drain removed . On post-operative day 11, all sutures were removed along with removal of pelvic drain and patient was discharged .

Histopathology report findings suggestive of Mullerian Inclusion Cyst with presence of cuboidal ciliated epithelial cells and immunohistochemical staining positive for PAX-8 and WT-1 respectively.

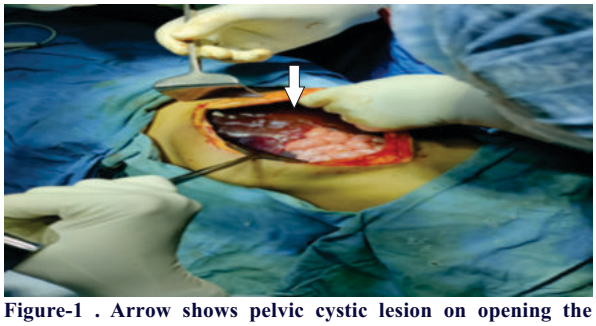

Figure-1 . Arrow shows pelvic cystic lesion on opening the abdomen with small bowel above it .

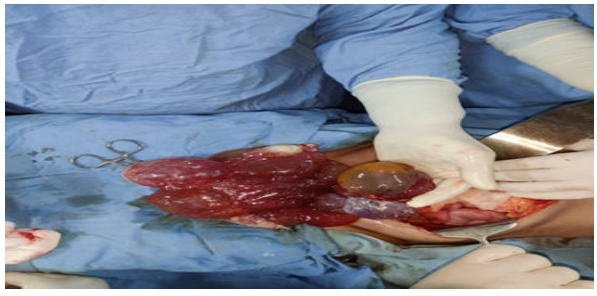

Figure -2. Delivering the multicystic specimen out of pelvic cavity.

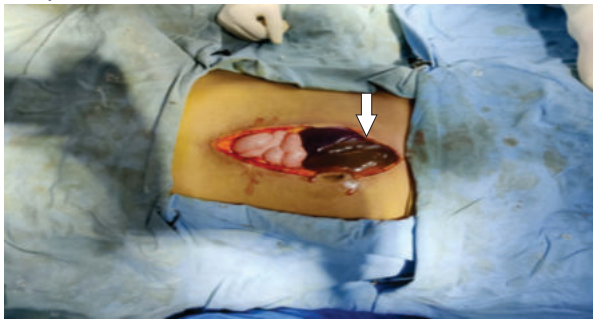

Figure -3. Showing midline vertical incision of exploratory laparotomy with arrow indicating Mullerian inclusion cyst.

Figure -4. Gross Specimen of Mullerian Inclusion cyst.

DISCUSSION-

Mullerian inclusion cyst is rarely seen in young female and the main mechanism has been implantation of tubal epithelium during ovulation when there is disruption of surface epithelium of ovary and this leads to metaplasia of the mesothelial derived epithelium that gets converted to Mullerian type tissue. Epithelial inclusion cyst are of two types-Type-I(Ovarian surface epithelium type) is due to invagination of surface lining epithelium of ovary and is known as Peritoneal inclusion cyst and immunohistochemical stains are positive for CALRETININ , WT-1 and D2-40 but PAX-8 and BerEP4 negative. Type-II (Tubal type) is due to implantation of tubal epithelium during ovulation due to disruption of surface epithelium of ovary and is known as Mullerian inclusion cyst and immunohistochemical stains are found positive for PAX-8, BerEP4 and WT-1 positive but CALRETININ and D2-40 negative respectively. Type-II epithelial inclusion cyst expresses estrogen and progesterone receptors and are lined by ciliated cuboidal to columnar epithelium. Steroid hormones have been found to convert mesothelial derived tubal epithelium to mullerian type tissue. Patients are mostly asymptomatic but when symptomatic may present with lower abdominal pain(pelvic pain), nausea and vomiting, pressure symptoms(difficulty in passing urine and stool) and palpable pelvic mass. Our patient presented with lower abdominal pain as the only complaint .

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