



IMMATURE OVARIAN TERATOMA WITH MULTIPLE IMPLANTS IN AN 18 YEAR OLD FEMALE.

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ABSTRACT Immature teratoma is composed of a mixture of embryonal and adult tissues derived from all the three germ layers . The main component is usually neuroepithelial, but mesodermal elements are also common.(1)

KEYWORDS :

INTRODUCTION

We report case of a 18-year-old girl who presented with an immature teratoma of both ovaries with implantation on peritoneum and omentum on multiple sites.

In September 2022, an 18 -year-old female was admitted for symptoms related to irregular menstrual cycle. She was diagnosed as Mature ovarian teratoma, on biopsy.

Clinically, the uterus was of normal size for the patient's age. Ultrasonography and CT scan found large complex cystic mass lesions with multiseptate morphology and having multifocal fat signal areas, one in pelvis and another in left iliac fossa and left lumbar region along with infiltration of anterior abdominal wall.

She was operated upon and during surgery left ovary and left fallopian tube ,deposits over left and right ovary ,pelvic mass abutting the serosa of sigmoid colon,omental mass ,peritoneal deposits and few lymph nodes were removed.

GROSS

1.LEFT OVARY

The left ovary measured 5x1.5x1 cm. Multiple nodules were present on the outer surface but the capsule was without adhesions to the surrounding structures.

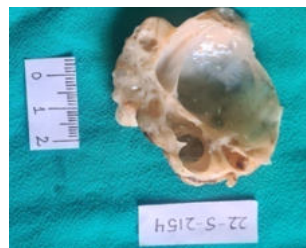
On cut section, solid and cystic areas were identified. There were no foci of cartilage or bone tissues.



2.PELVIC MASS ABUTTING THE SEROSA OF SIGMOID COLON

A pelvic mass abutting the serosa of sigmoid colon was also removed measuring 7.5 x5 x 2.5cm.Its outer surface was capsulated and irregular.

On cut section , a clear fluid as evacuated,multilocular cyst along with solid and cystic areas was identified.



3.SKIN COVERED ABDOMINAL WALL DEPOSIT ALONG WITH A PART OF OMENTUM

A skin covered abdominal wall deposit along with a part of omentum was also removed measuring 11.5x6 x3.5cm. Small foci of cystic areas were filled with blood and serous substance.



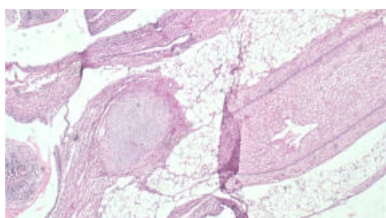
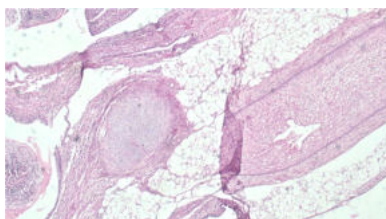
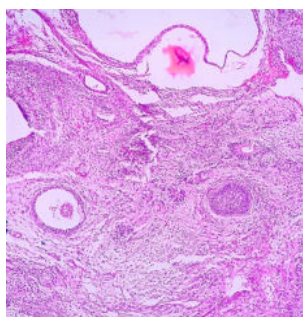
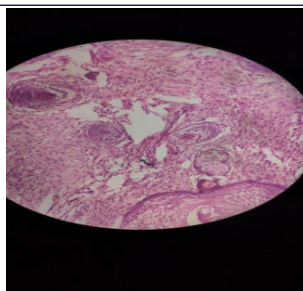
4. OMENTUM

A cystic omental mass measuring 7.5cm in diameter was also resected.

MICROSCOPY

Microscopic examination showed a mixture of mature tissues comprising of squamous epithelium, skin appendages,mucinous intestinal epithelium, respiratory epithelium, cartilage, glial tissue, choroid plexus and fat.

Multiple foci of immature neuroepithelium forming rosettes and tubules were present. Also, neuroglial nodules with round hyperchromatic cells and infiltrative edges were seen. These features are suggestive of Immature teratoma, grade 3 with multiple peritoneal and omental implants.



All the lymph nodes were free from tumor, the left fallopian tube was unremarkable. During the operation, ascites was detected but the fluid was negative on cytology.

Discussion

In the present case, the patient went to the doctor for irregular menstrual cycles at 18 years of age and was diagnosed with mature ovarian teratoma.

After surgery, the specimen were then sent to our pathology department and she was finally diagnosed with Immature ovarian teratoma of both ovaries with multiple omental and peritoneal deposits.

The change of mature teratoma into immature in a short period of time is highly unlikely. Thus, we anticipate that the biopsy could have initially missed out foci of neuroepithelium.

Hence, we state that biopsies in case of teratomas are not very conclusive as small foci of neural tissues could be missed.

Immature Teratoma

Immature teratomas consist of tissue derived from the three germ layers—ectoderm, mesoderm, and endoderm—and, in contrast to the much more common mature teratoma, they contain immature or embryonal structures. Immature teratoma of the ovary is an uncommon tumor, comprising less than 1% of ovarian teratomas. In contrast to the mature cystic teratoma, which is encountered most frequently during the reproductive years but occurs at all ages, the immature teratoma has a specific age incidence, occurring most commonly in the first two decades of life and almost unknown after menopause.(2) By definition, an immature teratoma contains immature neural elements.

According to Norris and associates, the quantity of immature neural tissue alone determines the grade. Neuroblastoma elements, glial tissue, and immature cerebellar and cortical tissue may also be seen. These tumors are graded histologically on the basis of the amount and degree of cellular immaturity.(3)

The range is from grade I (mature teratoma containing only rare immature foci) through grade III (large portions of the tumor consist of embryonal tissue with atypia and mitotic activity).

Generally, older patients tend to have lower grade primary tumors compared with younger patients.

In the above presented case, the patient was diagnosed with grade 3 as there were numerous neuroepithelial elements and few mature tissues. These tumors may have multiple peritoneal implants at the time of initial surgery, and the prognosis is closely correlated with the histologic grade of the primary tumor and the implants. (4)

Multiple sections of the primary lesion and wide sampling of the peritoneal implants are necessary to properly grade the tumor. In most cases, the implants are better differentiated than the primary tumors. Both the primary lesion and the implants should be graded according to the most immature tissue present. Patients with mature glial implants have an excellent prognosis; immature implants, however, do not.(5)

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