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A case of immature Teratoma in a 15 year old girl

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Abstract

Immature teratoma is very rare form tumour accounts 1% of ovarian teratomas. We report one such case in our hospital in a 15 year old young girl who presented with irregular cycles since menarche and abdominal mass noticed recently. Clinically she is found to have palpable mass of 16 weeks size. MRI done showed a large solid and cystic mass of size approximately 15x7x10cm in the left adnexal region. After routine preoperative investigations done which were within limits and she was found to have markedly elevated specific tumour markers, hence she was planned for laparoscopy and proceed. Laparoscopic ally the tumour were looking solid, nodular in consistency occupying the whole of the left adnexal region extending to the right side, therefore it was converted to open procedure. The patient underwent left salpingo Oophorectomy, specimen sent for frozen section, our pathologist involved in the case suggested features suggestive of immature teratoma. We gave saline washing and sent for cytology to look for malignant cells and o mental biopsy were taken too. Histopathology final report revealed Immature Teratoma. Histological grading of the disease were grade –II moderate amounts of immature neural tissue occupying greater than one but less than four low power filed. Additional features included areas showing mature tissue elements skin, adnexal structures, mature brain tissues cartilage. Pathological staging showed tumour limited to one ovary, capsule intact pNx. FIGO STAGE-Tumour confined to ovary, fallopian tube. Postoperatively patient was hemodynamically stable and there were no complications. PET CT was done which showed enlarged FDG avid nodes namely the right and the left upper deep cervical nodes and normal appearing uterus and right ovary. Tumour markers were repeated poster operatively and were found to be within normal limits. Medical oncologist opinion was obtained and the patient was started on chemotherapy. Post chemotherapy period was uneventful and the patient was stable, now on follow up with medical oncology.

Keywords: Immature teratoma, embryonal structures, teratoma, cisplatin, etoposide, gestadene

Introduction

Ectoderm, mesoderm and endoderm are the three germ cell layers in which Immature teratoma is derived from. The contents of the mature teratoma are immature or embryonal structures. They are also called as solid teratoma, malignant teratoma, teratoblastoma, teratocarcinoma and embryonal teratoma. These names have arisen because they have been incorrectly considered mixed germ cell tumours or secondary malignant tumours originating in mature benign teratomas. Mature teratomas represents 3% of all teratomas, 1% of all ovarian cancers and 20% of malignant ovarian germ cell tumours. It is usually seen in Women with 10-20years of age group and rarely postmenopausal group. Mostly it affects only one ovary, hence known as unilateral neoplasms. Mode of Spread are always extra ovarian spread via peritoneal implants and occasional lymphatics or hematogenous dissemination. Based on histological grading of primary tumour, prognosis is correlated. Fertility desires and the histological grading of the patient have been determining factors regarding extent of surgical therapy and subsequent adjuvant therapy. It is very necessary to properly grade the tumour by multiple sections of the primary lesion and wide sampling of the peritoneal implants.

Case report

Case history

A 15 year old unmarried girl had complaints of irregular menstrual cycles since menarche that is 11 years, following menarche she had only 3 regular cycles, after which she dint have her cycle for 1 year, hence she was prescribed OCPs of gestadene and ethinyl estradiol combination monthly following which her cycles were regularized. Her last menstrual cycle was within 15 days of previous menstrual cycle (LMP-14/05/2018 LLMP-12/04/2018). She also complaints of abdominal mass, which she noticed 1 -2 months back approximately. Patient was happened to take ultrasound abdomen and pelvis which showed a large left adnexal cyst of 15x10x8cm

approximately. She also had taken an MRI scan which showed A complex solid cystic lesion in left adnexa of size 15.1x7.7x10.5cm with left ovary not visualized separately. Physical examination revealed that the patient was in good general state; ruddy; with an abdominopelvic mass, felt in the left iliac fossa with the consistency of a cystic non mobile corresponding to 16weeks size with tenderness. Its lower border could not assessed. All routine investigations were within limits. MRI PELVIS: (31/5/2018) Uterus anteverted of size 6.1x3.2x2.4cm with of ET-4.9mm, Right ovary 3.1x1.5cm. Left adnexa showed 15.1x7.7x10.5cm solid cystic lesion, extending to right side. Left ovary not separately visualized. Tumour markers-alpha fetoprotein-16.5, LDH-162, Beta hcg-<0.6, FSH-1.7, LH-1.7, CEA-12, CA19.9-30.9, CA125-135.1. After preoperative investigations, patient had planned for laparoscopic salpingo oophorectomy, intraoperatively, it showed large solid cystic mass of 12x9x8cm approximately (Figure -1) hence converted to open left salpingo Oophorectomy was done. Intraoperative findings were A large left sided solid cystic mass of size about 10x9x8cm was found arising from the left ovary and the same removed without collapsing suspected malignancy hence frozen section was sent, which showed features suggested of immature teratoma. (Figure-2) Peritoneal fluid was sent for cytology. O mental biopsy was also taken. Saline wash given. No intraoperative complications noted. Histopathological examination revealed Immature Teratoma, histological grading of grade -II moderate amounts of immature neural tissue occupying greater than one but less than four low powers field. Additional features included areas showing mature tissue elements skin, adnexal structures, mature brain tissues cartilage. Pathological staging showed tumour limited to one ovary, capsule intact pNx. FIGO STAGE-Tumour confined to ovary, fallopian tube. Postoperatively patient was hemodynamically stable and there were no complications. PET CT was done which showed enlarged FDG avid nodes namely the right and the left upper deep cervical nodes and normal appearing uterus and right ovary. Tumour markers were repeated postoperatively and were found to be within normal limits. Ca125-107.7, Beta hcg-<0.6, Ca19.9-10.5, CEA-0.6, LDH-145 Alphafetoprotein-3.81. Medical oncologist opinion was obtained and the patient was started on chemotherapy. One cycle of INJ. Etoposide 150mg IV and Inj. Cisplatin 30mg IV was given for 5 days. Post chemotherapy was uneventful and the patient was stable.

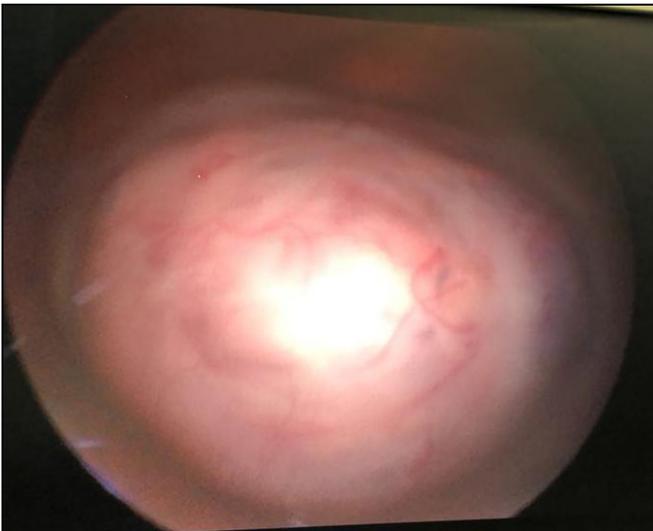


Fig 1: Image on Laparoscopy.

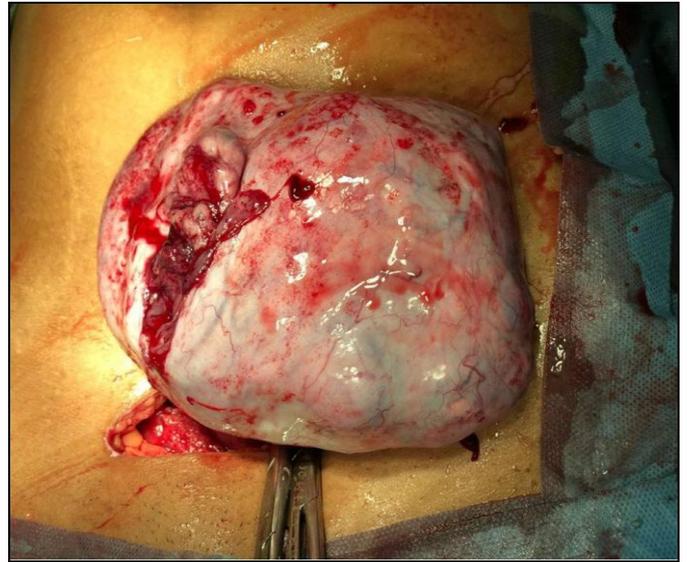


Fig 2: A picture showing - large solid cystic nodular lesion left ovary.

Conclusion

Teratomas, which are mature in nature, show a good prognosis. In large tumour, during frozen section foci of immature neural elements can be readily missed. Therefore, thorough surgical staging should be performed in case of mature cystic teratoma with a dominance of neural elements on frozen section. Management is always Surgery and follow-up remain the standard approach. Relapse of the disease is at higher risk if the surgery is incomplete. Hence the prognosis and treatment of the disease is based upon on grade, stage and karyotype of the tumor itself.

Discussion

An immature teratoma, representing 1% of all teratomas, and it's a very rare tumour, 1% of all ovarian cancer. It accounts 35.6% of malignant ovarian germ cell tumour. The disease is age specific, mostly seen in the first 20 years of life and very rare or almost never after menopause. Immature or embryonic structures are seen in immature teratoma, which is unlikely in mature cystic teratoma. It constitutes of both the combinations of adult and embryonic tissues, when it coexists with mature cystic teratomas. Abdominal distension and abdominal mass are the most common symptoms. Like in our case, the patient belongs to young age group of 15years old and presented with abdominal mass, which we successfully managed after the routine investigations, tumour markers and imaging, and she is on follow up with oncology team for chemotherapy. Postchemotherapy she is stable. Teratoma is the commonest ovarian tumour, which is a germ cell in origin, There are two varieties of which Solid is usually found to be malignant whereas cystic is identified to be benign [6]. Ultrasonography reveals a complex echo-pattern with solid and cystic components in the tumour whereas calcification and delineation of fat deposits are seen better in computed tomogram. The local extent of the disease and also to differentiate between benign and malignant tumor, Magnetic resonance imaging (MRI) is useful because of the improved soft tissue resolution assessment. Once the malignancy is confirmed, surgical staging is must. Recurrence may occur if the resection is incomplete [1-5] alpha-fetoprotein is commonly related to immature teratoma [3]. When combined with detection of Ca125, Ca153, and alpha-fetoprotein, these tumour markers are more sensitive for immature teratoma [16].

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