CASE REPORT

PREGNANCY WITH BILATERAL METASTATIC OVARIAN TUMOUR

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Metastatic ovarian tumours are extremely rare. The commonest primary site is usually stomach and the metastasis from this site is termed as krukenberg tumour. It accounts for 1–2% of malignant ovarian tumours. We present a case of 14 weeks' pregnancy with metastatic bilateral malignant ovarian tumour is presented. Diagnosis was made on ultrasound. Tumour markers were insignificant. Patient underwent staging laparotomy with total abdominal hysterectomy and bilateral salpingo oophorectomy and partial omentectomy. She also had haematemesis. Endoscopy revealed suspicious growth in stomach, but biopsy report excluded it. Case was handed over to the oncologist for further management.

Keywords: Ovarian Tumour; Pregnancy; Metastatic Ovarian Tumour; Krukenberg Tumour

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INTRODUCTION

The incidence of ovarian tumours during pregnancy is quoted to be 2.4–5.7%, but only 3% are malignant.[1] Studies have reported 0.0416 per 1000 pregnancies in Canada and most of these were borderline followed by epithelial tumours.[2,3] In Asia, the incidence has been reported to be 0.106 per 1000 pregnancies with 40% borderline tumours.[4] Borderline tumours are more common in pregnancy as reported by a study by Young et al in which 15 (55%) out of 27 were of borderline tumours.[5] Other malignant tumours have been mentioned in the literature like immature malignant teratoma, reported by Moradan *et al*[6] and ovarian yolk sac tumour, reported by Miyamato *et al*[7].

Metastatic ovarian tumours are extremely rare. The commonest primary site is usually stomach and the metastasis from this site is termed as krukenberg tumour. It accounts for 1–2% of malignant ovarian tumours.[8] In literature there have been rare reported cases of Krukenberg tumours in pregnancy.[1,9–11] We are reporting this case as it was the first metastatic ovarian tumour with pregnancy which we came across in our experience during last 15 years.

CASE

Mrs. SQA 40 years' lady who was gravid 8 para 7 with 14 weeks pregnancy, presented to us with huge mass abdomen. Her pregnancy was unplanned and she was unsure of her Last Menstrual Period. She had constant abdominal pain and sudden increased in the size of abdominal mass. She also had loss of appetite and weight. Her previous pregnancies were uneventful. On examination, she looked emaciated and pale, with BMI of 21 kg/m^2. Rest of the systemic examination was unremarkable. On abdominal examination, there was huge mass arising from the pelvis and reaching the epigastrium. It was irregular, firm and mobility was restricted, ascites could not be demonstrated. On pelvic examination cervix was healthy and no specific mass could be felt except fullness in all the fornices, uterus was soft and could not be separately felt from the above-mentioned mass. On her routine investigations, Hb% was 13 gm, Full Blood Count, RFT's, LFT's, Blood Sugar were in normal range. The hepatitis screening was negative. Her abdominal ultrasonography showed 14 weeks' alive foetus without any abnormality. There were bilateral complex mostly solid masses in the adnexal regions. On left side, it was about 20.4×15.9cm and on right side 10.7×10.1cm. There was moderate ascites. No other metastatic lesion was found. CT scan and MRI were not carried out. Tumour markers like Beta hCG was >10000 miu/ml, CA_{125} was 353 kU/L and Alpha Feto Protein was 24.8 ng/ml. Oncologist was consulted and she advised staging laparotomy and further management accordingly.

Patient was counselled and informed consent was taken. Staging laparotomy was done by doing Total abdominal hysterectomy, bilateral salpingo oophorectomy and partial omentectomy. About 1000 cc straw coloured ascitic fluid was drained and sent for cytology. There were bilateral huge ovarian masses. Left sided mass was twisted twice on pedicle and was haemorrhagic showing some gangrenous component it was >20cm in diameter. The right-side mass was about 14×14cm. Both masses were completely solid, capsule was intact. There was no invasion on the capsule and there were no blood vessels on the surface. Uterus was soft, about 16 weeks with no evidence of any metastatic lesion. Rest of the abdomen and omentum did not show any evidence of metastasis.

On her third postoperative day, she had extensive hematemesis and gastroenterologist was consulted who did emergency endoscopy. On endoscopy, there was huge ulcerative infiltrating growth at incisura with evidence of bleeding. Multiple biopsies were taken and sent for histopathology. Meanwhile, 7 pints of blood was transfused. Her renal function tests also started deteriorating and nephrologist was consulted. He advised conservative management.

On her 12th postoperative day, after the removal of mid-lines incision stitches, she developed

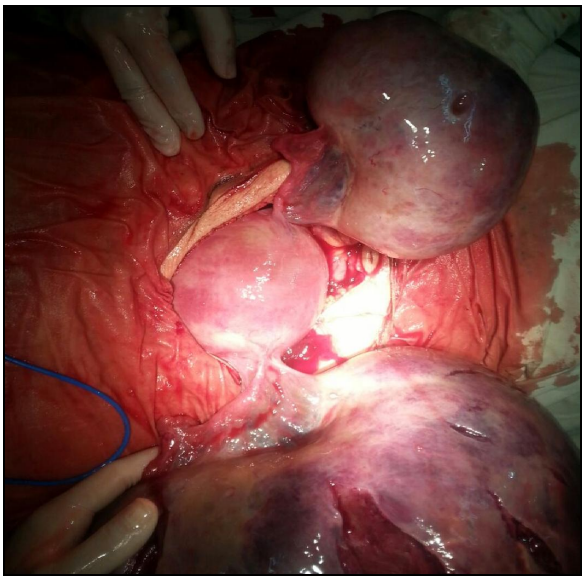
burst abdomen. A general Surgeon was consulted and emergency re-suturing was done successfully.

Meanwhile, all her investigations were repeated. The overall health of the patient gradually improved with care and food supplements. The ascitic fluid report did not show any malignant cells but the histopathology report revealed poorly differentiated adenocarcinoma involving both ovaries without involving the uterus or cervix or omentum.

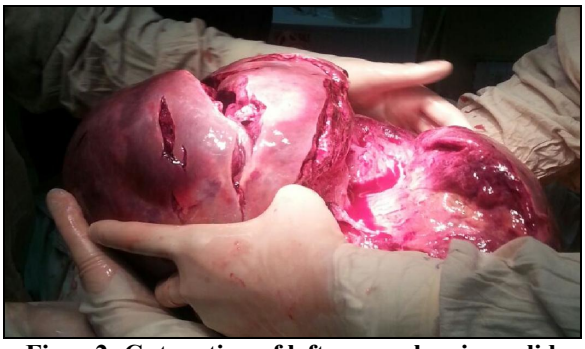
Immuno-histochemical stain showed positive cystokeratin, CK7 and CK20. All these features were suggestive of metastatic adenocarcinoma.

Histopathology report of stomach biopsy showed moderate chronic antral gastritis, but no evidence of malignancy.

As this was a case of metastatic carcinoma, Surgeon and oncologist were consulted and on the advice of the oncologist, she was shifted to IRNUM (Institute of Radiotherapy and Nuclear Medicine) for further evaluation and management.



Figer-1: Intra-operative findings showing bilateral tumours (larger on left side) and intact pregnant uterus.



Figer-2: Cut section of left ovary showing solid tumour with haemorrhagic and gangrenous areas

DISCUSSION

Malignant ovarian tumours are rare in pregnancy. Various reports have quoted different incidences, i.e., from 1/15000 to 1/32000 pregnancies.[12,13] Metastatic ovarian tumours especially Krukenberg tumour have been reported in literature.[1,9,10]

Symptoms of ovarian tumour are obscured by symptoms of pregnancy due to enlarging uterus and physical changes of pregnancy. In this case, patient had sudden increase in the size of abdominal mass and persistent pain and clinically a large abdominal mass was detected. Ultrasound remains very helpful initial investigation for the diagnosis and confirmation of ovarian mass. In this case, ultrasound findings were very informative, i.e., bilateral large solid looking masses with ascites. Use of MRI further increase the information specially nature and metastatic sites. MRI could not be done in this case due to some social reasons. Tumour markers can play a role in the diagnosis. Ca-125 is widely used, but interpretation is difficult in pregnancy as the level are elevated in normal pregnancy as well as in immediate postnatal period.[14] In this case Ca-125 level were increased, Dong *et al* has also reported increased levels in borderline epithelial tumour.[15] On the other hand, Co et al has also reported increased levels in Krukenberg tumour.[9] Beta hCG was raised and it was probably due to pregnancy while Alpha Feto Protein level was normal.

Management of such tumours is always a challenging dilemma, as there are no proper protocols or guidelines for the management of such cases. In contrast to previous guidelines nowadays people are managing these tumours conservatively. Principles of management of ovarian malignancy include surgery, adequate staging followed by chemotherapy. In early stage, young patient desiring for fertility and borderline tumours surgical principle should be unilateral oophorectomy or adenexectomy with appropriate staging.[5] Dong *et al* has mentioned in his two case reports fertility conservative surgery.[15] Moradan *et al* has reported a case of immature teratoma during pregnancy with stage Ia grade I disease where conservative surgery followed by Elective Caesarean Section was successfully done.[6] Same types of malignant tumours have been reported by Garia *et al*[8] and Co *et al*[9]. In our case oncologist was consulted and considering her multiparity early pregnancy and bilateral large solid tumours staging laparotomy was advised after informed consent. Frozen section would have been a better option but the facility is not available in our set up, so radical surgery was done. Histopathology report and positive cystokeritin CK 7, CK 20 were suggestive of metastatic adenocarcinoma. Her hematemesis

suggested for gastroscopy. On examination, the gross appearance of stomach lesion was suggested of malignancy but histopathology report negated it. Similar case has been reported by Kim HS where primary lesion could not be localized and patient was treated conservatively with Emergency Caesarean Section with right salpingo-oophorectomy and partial left oophorectomy followed by EOX chemotherapy.[10]

Unfortunately, the primary lesion could not be detected. gastroenterologist, surgeon and oncologist were re-consulted and patient was put on chemotherapy by oncologist she was asked for follow up but did not reported tell to date.

CONCLUSION

Management of malignant ovarian tumours in pregnancy remains a challenge in terms of conservative versus radical surgery. However, these tumours should be managed by multidisciplinary team including Gynaecologists/Obstetricians, Oncologist, Radiologist and Neonatologist. Since large prospective randomized trials do not exist and no agreed protocols or guidelines are available, so these patients should be managed on individual basis.

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