International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor 2024: 7.101

Post-Partum Abnormal Uterine Bleeding- Choriocarcinoma as a Rare but Important Cause

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Abstract: ***Gestational Trophoblastic Neoplasia (GTN) as a broad group includes partial mole and complete mole as benign lesions and Invasive Mole, Choriocarcinoma, Placental site Trophoblastic Tumour (PSTT) and Epithelioid Trophoblastic Tumour (ETT)*** **and mixed trophoblastic tumor,** ***as malignant lesions. Incidence of Choriocarcinoma is 1 in 20,000 to 30,000 pregnancies, of which about 50% arise from molar pregnancies, about 25% arise from previous abortions and about 25% occur following normal pregnancies. Choriocarcinomas are sensitive to Methotrexate therapy and therefore they carry better prognosis than other comparable malignancies. The tumour is aggressive in its behaviour and metastases are hyper vascular and frequent with lung being the common site.***

Keywords: Gestational trophoblastic neoplasia, Choriocarcinoma, Methotrexate chemotherapy, Lung metastasis

1. Introduction

Gestational choriocarcinoma is a rare and aggressive trophoblastic tumor composed of neoplastic villous syncytiotrophoblast, intermediate trophoblast, and cytotrophoblast. Gestational choriocarcinoma is a form of gestational trophoblastic neoplasms (GTNs), a group of tumors that also include invasive moles, placental site trophoblastic tumor, epithelioid trophoblastic tumor and mixed trophoblastic tumor.

The majority of gestational choriocarcinomas are detected in the early phases of disease due to vaginal bleeding and marked elevation (>10,000 IU/L) of serum human chorionic gonadotropin (hCG), about 30% of the patients are diagnosed with metastatic disease at presentation.

Patients with gestational choriocarcinoma tend to develop early systemic dissemination, lung metastasis being the commonest site and generally no other distant metastases are detected in patients without pulmonary metastases.

The risk of gestational choriocarcinoma increases progressively in women older than 25 years and increases rapidly with increasing age.

Typically, a diagnosis of gestational choriocarcinoma is made in women with recent pregnancy events, elevated hCG levels and radiological evidence of metastasis.

2. Case Report

This case report discusses a 29-year-old female (P1 L1) who had undergone an LSCS, presented with persistent uterine bleeding with history of passage of clots since then.

At the time of admission, the UPT status was positive, and the Biochemical profile showed markedly raised beta hCG levels (2,25,000 IU at the time of presentation)

USG of Abdomen and Pelvis (TAS and TVS) demonstrated a bulky uterus with smooth and regular contour with evidence of a heterogeneously hyperechoic lesion in the right cornual region of the fundus with intense vascularity with a low resistance flow.

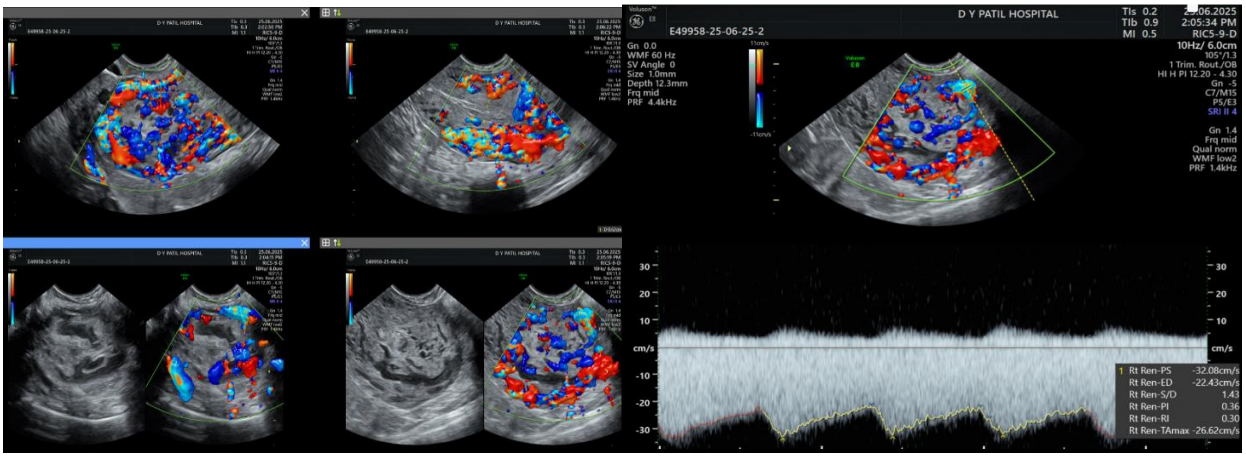

Figure 1: On colour doppler, intense vascularity was seen involving the myometrium and the entire echogenic lesion with features suggestive of low resistance flow (PSV value of 32.0 cm/sec with RI of 0.3).

On retrospective review, all the antenatal scans were normal with no evidence of any placental lesion or suspicion of partial mole seen.

Subsequently, contrast enhanced MRI Abdomen and Pelvis was performed for further evaluation and characterization of the lesion. It demonstrated a heterogeneously enhancing area involving the myometrium at the fundus (corresponding to the lesion seen on USG).

The endo-myometrial junction in the region of the fundus was not well appreciated. Multiple serpentine flow related T2W signal voids were seen involving the bilateral parametrial regions and scattered within the myometrium of the body and fundus of uterus, suggestive of engorged vessels.

There was no bladder-bowel involvement or adjacent parametrial invasion seen.

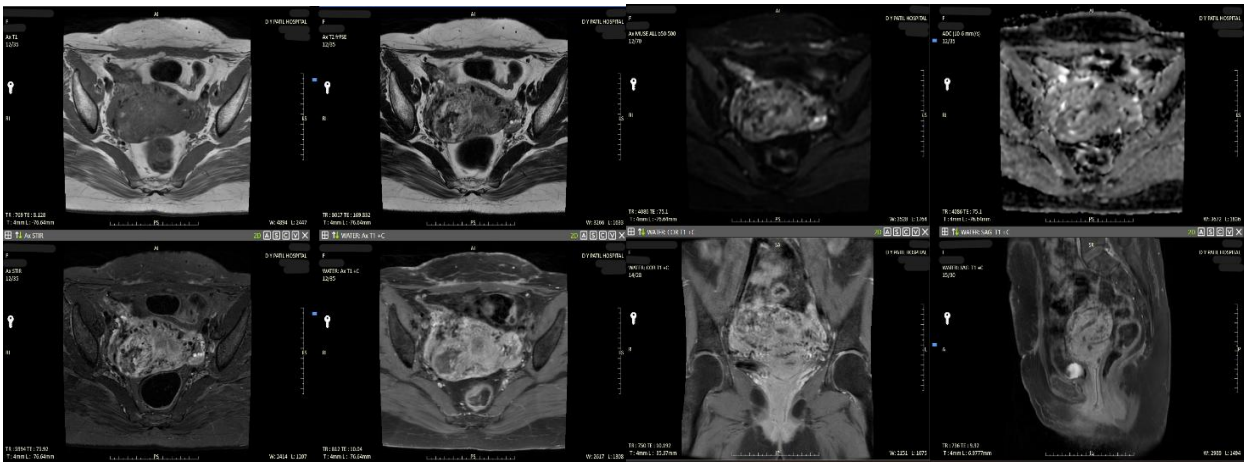

Figure 2: The lesion appeared isointense to hypothetical T1W images, hyperintense on T2W and STIR images with no restriction seen on Diffusion weighted images. There was a central area appearing hypointense on all sequences with evidence of blooming seen on Gradient images and no post contrast enhancement, suggestive of hemorrhagic component.

Additionally, the MRI Abdomen showed a T2W hyperintense area involving the anterior basal segment of the right lung, showing indeterminate drop on ADC images.

X-Ray Chest PA view showed a nodular opacity in the lower right zone, as corresponding to the lesion seen on MRI Abdomen.

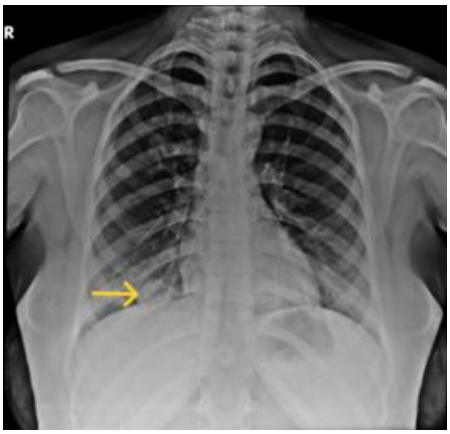

Figure 3: Nodular opacity in right lower lung (Marked with arrow)

Going ahead with the radiological findings, USG guided biopsy was done.

The histopathological evaluation demonstrated a malignant tumour comprising of atypical syncytiotrophoblasts, cytotrophoblasts and intermediate trophoblasts with large areas of necrosis and haemorrhage seen within, suggestive of gestational choriocarcinoma (Placental bits)

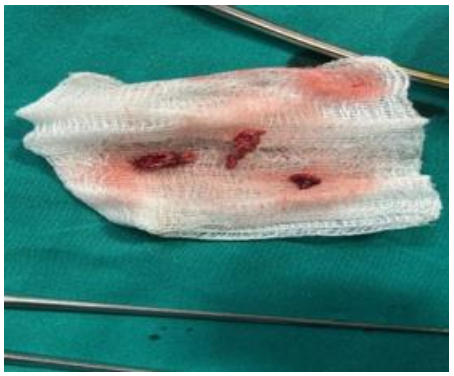

Figure 4: Histopathology sample

PET-CT demonstrated FDG uptake in the primary uterine lesion as well as in a nodular lesion in Right lung (corresponding to the area mentioned in MRI Abdomen and X-Ray Chest PA view).

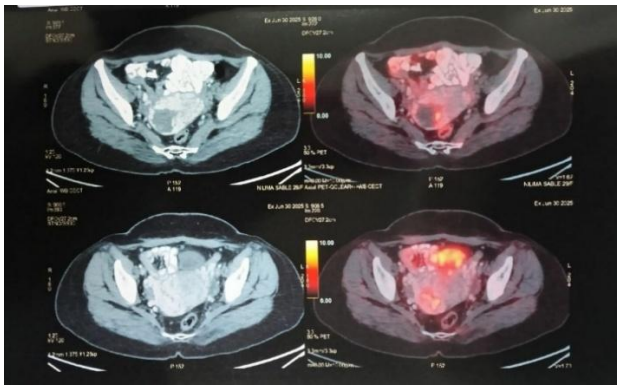

Figure 5: Primary Uterine Lesion

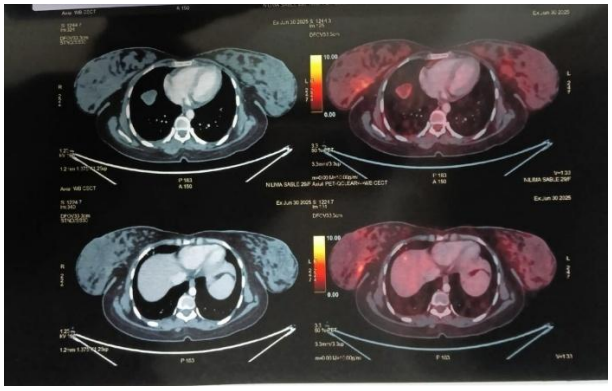

Figure 6: Pulmonary Nodular Lesion

Treatment:
Following the establishment of diagnosis of GTN, Inj. Methotrexate 57 mg I/M was prescribed with Inj. Folinic acid 0.1 mg/kg/day in 4 doses, and the Beta hCG levels were monitored subsequently. The response to the Methotrexate was significant as seen by the significant reduction in the serial Beta hCG values.

3. Conclusion

Diagnosis of gestational choriocarcinoma relies on International Federation of Gynecology and Obstetrics (FIGO) criteria (including hCG evolution and histology). However, pre-operative workup, including radiological assessment, is of paramount importance (especially in case of suspected extra-uterine spread). Imaging studies should start with chest X-ray. Pelvic ultrasonography or an MRI scan are useful to evaluate the diffusion of the gestational choriocarcinoma in the uterine corpus and in surrounding tissues. Contrast-enhanced chest and abdominal CT should be performed in case of suspected lesions detected at the time of chest X-ray.

It can be concluded that in a case of post-abortion/post-partum bleeding, whenever a very vascular endo-myometrial lesion is seen on ultrasonography with characteristic changes on MRI, accompanied by very high serum beta hCG levels, we must think of Gestational Trophoblastic Neoplasia (GTN) as a possible cause.

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