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Case Report

Incidental detection of gallbladder carcinoma in third trimester of pregnancy

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ABSTRACT

Gall bladder cancer (GBC) represents the most common biliary tract cancer. GBCs are diagnosed more frequently in women. GB cancer represents a progression from dysplasia, to carcinoma in situ, to invasive carcinoma over about 15 years. Severe dysplasia and carcinoma in situ have been found in more than 90% of gallbladders that contain GB cancer. A 35-year-old $G_2P_1L_1$ @34.4 weeks with previous 1 lower segment caesarean section (LSCS) came to emergency referred from a primary health center in view of pain abdomen. She was worked up and was found out to have deranged liver functions but no visible icterus, ultrasound whole abdomen showed GB mass with multiple heterogenous hypoechoic round to oval targeted lesions largest measuring 3.5×3 cm suggestive of metastasis. Patient was taken up for LSCS at 36 weeks. Post-operative period was uneventful until day 3 when patient started complaining of pain epigastrium with mild abdominal distention. Contrast enhanced computed tomography (CECT) was done which proved it to be a metastatic GB cancer. GB cancer during pregnancy is rare but challenging to manage. Diagnostic imaging, like ultrasound is mostly the safest and first line approach. The prognosis of stage 4 gallbladder cancer in pregnancy depends on various factors, including the extent of metastasis, the patient's overall health, and the timing of diagnosis and treatment. Generally, stage 4 gallbladder cancer has a poor prognosis, with low survival rates even outside of pregnancy.

Keywords: Gall bladder cancer, PET CT, Metastasis

INTRODUCTION

Gallbladder cancer (GBC) represents the most common and highly fatal biliary tract cancer. GBCs are diagnosed more frequently in women, supposedly due to endocrine factors.[1,2] Due to its influence by estrogens leading to an increase in the supersaturation of bile cholesterol, being therefore potentially involved in the pathogenesis of GBC mediated by gallstones.[3,4] GBC represents a progression from dysplasia, to carcinoma in situ, to invasive carcinoma over about 15 years. Severe dysplasia and carcinoma in situ have been found in more than 90% of gallbladders that contain GC. The vague symptoms associated with primary cancer of the gallbladder make the early diagnosis of the disease difficult.[5]

It is mostly detected incidentally at the time of surgery done for cholelithiasis or cholecystitis. GBC is largely asymptomatic until the advanced stages of the disease, with gallstones and chronic inflammation or when it presents with complications such as jaundice, hepatomegaly, ascites or duodenal obstruction due to the spread of malignancy.[6] The radiological features in the form of GB wall thickening are largely non-specific and may be confused as chronic cholecystitis.[7] Prognosis remains poor with 5-year overall survival rates less than 5% in advanced stages.

In the absence of metastasis, surgery and adjuvant chemotherapy are the cornerstones of treatment, but exposure during pregnancy may lead to a decision to

terminate the pregnancy or forego treatment leading to life threatening consequences.[8-10]

CASE REPORT

A 35-year-old G2P1L1 @34.4 weeks with previous 1 caesarean section came to the labor room referred from a smaller primary health center in view of pain abdomen and nausea. She was hemodynamically and vitally stable and complained of generalised pain abdomen since 3 weeks. Pain was dull aching in nature, continuous, aggravated after food intake with no diurnal and postural variation. It was associated with nausea and uneasiness in the abdomen. She was worked up after taking complete history and was found out to have deranged liver function tests as follows S. bilirubin 2.41 mg/dl, serum glutamic oxaloacetic transaminase (SGOT) 140 IU, serum glutamic pyruvic transaminase (SGPT) 135 IU but no visible icterus. She was started on Tab. ursodeoxycholic acid 300 mg twice daily. Ultrasonography (USG) whole abdomen was done and showed: liver to be hetrogenous in echotexture with multiple hetrogenously hypoechoic round to oval lesion a variable sizes largest measuring 3.5×3 cm suggestive of metastasis with few and large lymph nodes in porta hepatis regions.

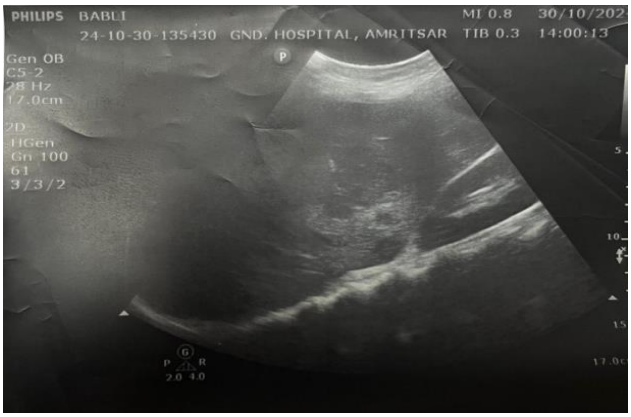

Figure 1: USG whole abdomen showing multiple space occupying lesions in the liver.

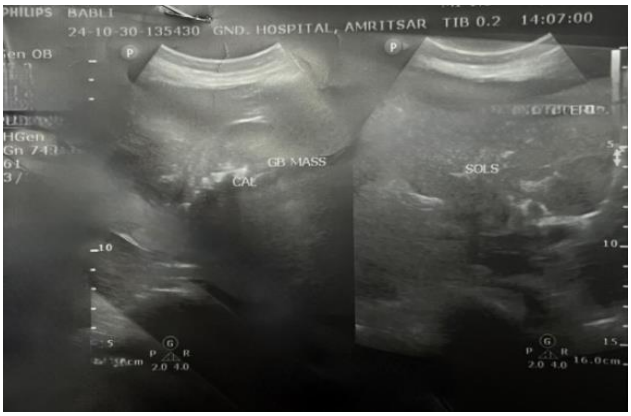

Figure 2: USG whole abdomen showing multiple liver metastasis with gall bladder mass.

In view of fetal concerns, CT scan could not be done antenatally. Medical and oncosurgery opinion were taken and managed accordingly. Prognosis was explained to the patient and the attendants. Patient was given dexamethasone coverage was taken up for elective LSCS at 36 weeks. Intraoperative period was uneventful. Patient was doing fine until day 3 when patient started complaining of pain epigastrium and hypochondrium with difficulty in breathing with mild abdominal distention. Abdominal girth increased progressively. CECT was done which proved it to be a metastatic gall bladder cancer (stage 4) with metastasis to the liver, pleural cavity (mild to moderate pleural effusion) and abdominal cavity (mild ascites). Surgery could not be offered due to the extensive metastatic spread of the disease. Chemoradiotherapy would delay the healing process and lead to further complications like suture line discharge, wound dehiscence, sepsis and abscess formation. Patient was counselled and opted for palliative and symptomatic management. She was discharged on post-operative day 10. General condition of the patient worsened with progressively increasing ascites and pleural effusion leading to her death due to cardiopulmonary failure.

DISCUSSION

GBC is one of the most aggressive and rapidly spreading biliary tract cancers. They are characterized by local and vascular invasion with extensive nodal metastasis. They are more frequently diagnosed in women possibly due to role of endocrine and hormonal changes. Surprisingly, in a study conducted by Mishra et al in 2021, parity also played a significant association to GBC.[11] Early first pregnancy may allow gallstone induced carcinogenesis to proceed till completion. Similar findings were reported by Vecchia et al with 1.9 times increased risk of GBC in multipara.[12] During pregnancy, increased estrogen levels result in the increased hepatic secretion of biliary cholesterol making bile supersaturated and lithogenic leading to increased stasis of bile further leading to development of bile stones and chronic inflammation which are the precursors to the development of a full blown GBC. A study by Pandey et al proved that higher age at menarche (>13 years, OR 2.48, 95% confidence interval (CI) 1.16–5.3), higher number of childbirths (>3 births, OR 3.92; 95% CI 1.4–10.3), higher number of pregnancies (>3 pregnancies, OR 6.66, 95% CI 1.8–23.4), and higher age at last childbirth (>25 years, OR 2.97, 95% CI 1.04–8.5) were found to have significantly higher risk of developing gallbladder cancer.[13] Furthermore, many cases which could have been detected in an early stage when treatable are delayed due to lack of awareness, no proper screening facilities and rural households leading to a delay in reaching the hospital. A resectable GBC during pregnancy should be treated by surgery, preferably in the second trimester after appropriate optimization. The unresectable disease presents a management dilemma as most patients prefer to continue the pregnancy, which also causes the disease to progress. Chemotherapy though not recommended during the first trimester, may be

administered in the second and third trimesters with limited fetal risk but not three weeks before expected delivery. Unresectable and metastatic disease limits treatment and patient can be offered palliative and symptomatic disease.[14]

CONCLUSION

GBC during pregnancy is rare but can be challenging to manage due to its symptoms overlapping with common pregnancy issues like nausea and abdominal pain. The treatment often involves balancing the need for early diagnosis with the safety of both the mother and fetus. Diagnostic imaging, like ultrasound is mostly the safest and first line approach. Treatment options may include surgery or chemotherapy, but these are highly dependent on the stage of cancer and the gestational age of the pregnancy. The prognosis of stage 4 gallbladder cancer in pregnancy depends on various factors, including the extent of metastasis, the mother's overall health, the timing of diagnosis and treatment. Generally, stage 4 gallbladder cancer has a poor prognosis, with low survival rates even outside of pregnancy ranging from 6 months to maximum 1 year with 5-year overall survival rates less than 5% in advanced stages.

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