CASE REPORT

Perforated Malignant Gastric Ulcer in a Pregnant Young Adult: A Case Report

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Summary

Gastric cancer in the young adult is rare and has been said to be more aggressive than gastric cancers of the older age group. Its unique association with pregnancy is even rarer. However, they have similar complications of haemorrhage, obstruction and perforation. We report a 27 year old lady at 16 weeks gestation who presented with a perforated malignant gastric ulcer and carcinomatosis peritonei. Reviewing the literature, we realised that such complication of a gastric cancer occurring in a pregnant young adult has not been previously documented.

Key Words: Pregnancy, Gastric neoplasms, Perforation, Complications

Introduction

Gastric cancer associated with pregnancy is extremely rare. Information on this particular subject is scarce with very few scattered cases reported in the English literature. The higher incidence and screening of gastric carcinoma in Japan has resulted in more of such cases detected[1,2]. Nonetheless, gastric cancer in the young adult and particularly when associated with pregnancy is still aggrieved by the advanced nature of the disease at presentation and the poorer prognosis.

Case Report

A 27-year old Chinese lady who was 16 weeks pregnant presented with a one day history of sudden onset of severe epigastric pain. There was no nausea, vomiting, haematemesis or melaena. She had been troubled by symptoms of gastritis for the past 5 months which were relieved by food and not requiring medical treatment as well as symptoms of hyperemesis gravidarum during her first 10 weeks of gestational period. There was no history of significant loss of appetite and weight. She had no other medical illnesses and no previous surgery. Her two previous pregnancies were normal and her gynaecological history was unremarkable. She was a housewife, smoked 5 to 6 cigarettes a day for the past 5 years and consumed alcohol only socially. There was no family history of gastrointestinal malignancy.

Physical examination revealed a fairly fit looking young lady who was in pain. She was pyrexic with a temperature of 39°C. Her blood pressure was 110/70mmHg with a pulse rate of 120 per minute. She was not pale nor jaundiced and there was no external lymphadenopathy. Both the heart and chest examination were normal. Her abdomen however, was distended with marked tenderness and guarding in the epigastrium. There was also loss of liver dullness on percussion. The uterus was about 20 weeks size and bowel sounds were sluggish. Per rectal examination was normal. Her initial blood investigations including serum amylase, liver function test and renal profile were essentially normal except for a raised total white count. The gynaecologist was called to help exclude pregnancy related problems. An ultrasound was performed which showed a viable

single foetus of 16 weeks gestational age and no abruptio was noted. There was free fluid noted in the peritoneal cavity. A diagnosis of a perforated peptic ulcer was made and she underwent an emergency laparotomy. At operation 3 litres of contaminated ascitic fluid was found in the peritoneal cavity. There was a 1 x 1cm perforation of the anterior wall of the distal half of the stomach. The ulcer edge was thick and indurated. The greater omentum was thickened, hardened and studded with tumour seedlings. Multiple seedlings were also noted on the serosal surfaces of the entire length of the small and large bowels. The liver was however, smooth and normal. Biopsies were taken from the ulcer edge and tumour seedlings. The gastric perforation was plugged with a tongue of omentum and secured with Dexon 2/0. The peritoneal cavity was lavaged and closed. The patient's postoperative recovery was uneventful and the foetus was still viable. The histology of the gastric ulcer and the peritoneal seedlings revealed a moderately differentiated adenocarcinoma. The diagnosis and prognosis of her condition was discussed with her husband and on his request, she was allowed home nine days after surgery. She never returned to the clinic and subsequent attempts to locate her or the husband via phone and letters failed. It was learned that they were no more living at the address given. No further information was available and she was presumed to have died.

Discussion

Gastric adenocarcinoma is a disease occurring infrequently in patients under 40 years of age. Whether they behave differently from gastric cancer in older patients has been a controversial issue[3]. However, the literature on gastric cancer in the young adults have described almost similar findings; the female dominance, more aggressive histological features, the advanced disease stage at presentation and the poorer prognosis. These characteristics were even more pronounced in the pregnancy associated cases[1,2]. Being more common in females, the association of gastric cancer and pregnancy could be purely a natural coincidence, but on the other hand it has been postulated that the immunosuppression during pregnancy is conducive for tumour growth and the biological and hormonal circumstances further enhances tumour progression[1,4]. This could explain why most cases of gastric cancer associated with pregnancy are usually advanced by the time that they are diagnosed. Misdiagnosis is another contributing factor as the symptoms are frequently masked by factors related to the normal pregnancy. As illustrated in our case, her initial symptoms of gastritis were mingled and masked by the hyperemesis gravidarum. Even on admission, the acute abdomen was thought to be pregnancy related. Similar to other reported cases, symptoms were attributed to the pregnancy and not evaluated further until delivery or complications developed[1,2]. Detection can be further delayed as therapeutic approaches will usually be restricted by the physical and psychological clinical events surrounding the pregnancy.

The presence of frank peritonism prompted laparotomy in our case, however, the finding of a perforated malignant gastric ulcer with carcinomatous peritonei was certainly not expected. We believe this to be the first reported case of such an event occurring in a pregnant young adult. Perforation of a malignant gastric ulcer is in itself a rare event and observed mainly in advanced tumours. Because of this as well as the fact that the peritoneal cavity will already be contaminated by cancer cells, surgery should be as palliative as possible. In view of the poor outcome, a simple closure of the perforation or omentopexy is the usual procedure as carried out for our case as well as in the great majority of published cases. With regards to the foetus, an induced delivery or early Caesarian section will simplify management of the mother provided the foetus has reached viability. Otherwise an abortion is not known to be therapeutic and an early pregnancy can be left undisturbed unless irradiation or chemotherapy is planned.

The only way to improve prognosis of gastric carcinoma during pregnancy would be an early detection with gastroscopy and immediate curative resection[1]. However, it would seem totally impractical to gastroscope every single pregnant lady with upper gastrointestinal symptoms as nausea, dyspepsia, vomiting and anaemia are common accompaniments of pregnancy. Furthermore, routinely prescribing antacids or H2 blockers for these symptoms without further evaluation is a practice that is too prevalent.

References

1. Maeta M, Yamashiro H, Oka A, Tsujitani S, Ikeguchi M, Kaibara N. Gastric cancer in the young, with special reference to 14 pregnancy-associated cases: analysis based on 2,325 consecutive cases of gastric cancer. J Surg Oncol, 1995; 58 (3): 191-5.
2. Kodama I, Takeda J, Kofuji K, Yano S, Hanzawa M, Shirouzu K. Gastric cancer during pregnancy. Kurume Med J, 1997; 44 (3): 179-83.
3. Theuer CP, Kurosaki T, Taylor TH, Anton-Culver H. Unique features of gastric carcinoma in the young: a population-based analysis. Cancer 1998; 83(1): 25-33.
4. Furukawa H, Iwanaga T, Hiratsuka M, *et al.* Gastric cancer in young adults: growth accelerating effect of pregnancy and delivery. J Surg Oncol 1994; 55 (1): 3-6.