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Metastatic gastric adenocarcinoma in a pregnant woman

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ABSTRACT

Gastric cancers occur in only 0.025% to 0.1% of all pregnancies. We present a pregnant woman with gastric adenocarcinoma associated with bone metastasis. She is 36-year-old (gravida:4, para:0) 16-week pregnancy, complaining of nausea, vomiting, weight loss (~15 kg) and low back pain. Although the patient considered the condition to be related with pregnancy and underestimated its importance. She had high erythrocyte sedimentation rate (107 mm/h) and anemia (hemoglobin = 9.4 gr/dl). Lumbar magnetic resonance imaging showed L4 vertebrae malign compression fracture and diffuse bone metastasis. Because of the patient's melena, esophagogastroduodenoscopy was performed and biopsy result was reported as stomach adenocarcinoma. It is important to evaluate the symptoms of low back pain and pregnancy related symptoms carefully and do not cause delays in diagnosis due to overlapping symptoms.

Keywords: pregnancy, lower back pain, stomach neoplasms

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Low back pain during pregnancy is a common symptom. About half of pregnancies may have complain of low back pain. There are many reasons for the etiology, such as postural changes caused by fetal growth, hormonal factors, nucleus pulpous, tumors and infections [1]. The most important cause of low back pain in pregnancy is considered to be postural changes. With the progress of pregnancy, the center of gravity slides forward and the load on the spine tends to increase [2]. The second important cause is laxity in the joints due to increased levels of the hormone relaxing during pregnancy [3, 4]. Rarely, low back pain due to primary or secondary tumors can be seen in pregnancies. Gastric cancer is occurring in only 0.025% to 0.1% of all pregnancies. Diagnosis is often difficult due to symptoms such as sickness, vomiting, or abdominal disturbance that often disappears during pregnancy [5]. In this case report, we present a case of gastric adenocarcinoma diagnosed in a pregnant patient with low back pain secondary to lumbar bone metastasis.

CASE PRESENTATION

A 36-year-old (gravida:4, para:0) 16-week pregnant woman applied to our clinic for low back pain and pain in both legs. She stated that low back pain started from the time of detection of her pregnancy, gradually increased and spreading to her right leg. She stated that her pain was increasing with the movement and sitting for a long time. Right leg pain was also accompanied by numbness and tingling. At the same time, there were some complaints such as nausea, vomiting, loss of appetite and weight loss of about 15 kg from the beginning of her pregnancy.

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Figure 1. Lumbar MRI on T1-weighted image: L4 vertebra compression.

Figure 2. Lumbar MRI on T2-weighted images: L4 vertebra malignant compression fracture and diffuse bone metastasis.

There was no fever or no night sweats. Her past medical and family histories were unremarkable. She went to different doctors (a neurosurgeon, a physiatrist and orthopedist) before applying to our clinic and she had no blood result with her. On physical examination, she looked pale on inspection; palpation to lumbar spinous processes and paravertebral muscles was sensitive. Lumbar region joint movements were painful and limited, especially in flexion. Lasegue test, to detect whether the low back pain has an underlying herniated disk was bilateral negative. There was a short-distance antalgic gait supported by two people. The lumbar pain level measured by visual analog scale (VAS): 10. In laboratory investigation, erythrocyte sedimentation rate was 107 mm/h, C-reactive protein was 10.6 mg/dl, procalcitonin was 0.101 ng/ml, white blood cell account was 10.000/mm3, hemoglobin was 9.4 gr/dl and Brucella agglutination tests were negative. Lumbar magnetic resonance imaging (MRI) findings showed signal loss due to degeneration in L4-5 disc, marked heterogeneous bone marrow signal pattern in vertebral discs, marked heterogeneity in discs. The L4 vertebrae showed a height loss of less than 50%, a compression fracture on T1-weighted image (Figure 1).

Because of the patient's melena, esophagogastroduodenoscopy was performed in the gastroenterology clinic. Biopsy result was reported as stomach adenocarcinoma. In view of further examination and treatment, a lumbosacral MRI with contrast agent was obtained with the opinion of an obstetric specialist. The MRI result was evaluated as L4 vertebrae malignant compression fracture and diffuse bone metastasis on T2-weighted image (Figure 2).

Therapeutic abortus was performed with the approval of the patient and relatives. Chemotherapy and radiotherapy treatments were initiated by the oncology clinic. About one month later, the patient died due to sudden cardiac arrest.

DISCUSSION

It is known that 20-90% of pregnancies experience low back, back and hip pain, because of the laxity of ligaments and postural changes. The biomechanical load is often the cause of such pains. However, these findings are mostly confronted during the second trimester of pregnancy. Also, gestational age is found to be a risk factor for low back pain [6]. The present case was a middle-aged pregnant who applied during the 2nd trimester with low back pain, and was not different from the other cases reported. However,

accompanying weight loss required further investigation with pathological evaluation and laboratory tests.

The incidence of cancer during pregnancy is approximately 0.1% [7], and of that gastric cancer is lower at 0.026 to 0.1% of all pregnancies [8]. In the literature, malignancies with vertebral metastases during pregnancy are mostly detected as gestational choriocarcinoma. These cases are mostly diagnosed with vertebral metastasis, after detection of a primary lesion during or after pregnancy [9, 10].

Pacheco *et al*. [5] reported 3 cases of gastrointestinal malignancy detected during pregnancy. All patients presented with epigastric pain and weight loss. A biopsy was performed by gastro-endoscopy, and the cases were diagnosed as gastric cancer. The authors emphasized that gastric carcinomas are rarely seen in pregnancy, that pregnancy masks the findings of this disease, but early diagnosis improves treatment and survival, which is why it is very important to identify the disease.

Chen *et al*. [11] reported a case of gastric adenocarcinoma that metastasized to the placenta. In the patient who received emergency cesarean section due to 34-week preeclampsia, chylous acid was detected during surgery and it was reported as primer gastric adenocarcinoma metastasis to the intervillous space and placenta. The patient was in the 2nd trimester of pregnancy and had complaints of constant vomiting and epigastric pain. The authors noted that early gastric cancer diagnosis is delayed due to pregnancy-induced gastrointestinal problems.

Gastric cancer in pregnancy has poor prognosis [12]. Therefore, pregnancy-associated gastric cancer is extremely rare, and in many cases, it is diagnosed at an advanced stage because the symptoms during pregnancy are generally overlooked [5]. Additionally, the diagnosis of gastric cancer is often delayed in pregnant women because it is difficult to distinguish between symptoms of gastric cancer and common pregnancy-induced symptoms, such as the hyperemesis and pressure resulting from the enlargement of the uterus. Furthermore, the physician and patient are often hesitant to conduct diagnostic examinations during pregnancy [13, 14]. One- and 2-year survival rates are 18.0 % and 15.1%, respectively. When gastric cancer is diagnosed prior to 22 weeks of gestation, the patient should be treated after termination of the pregnancy by abortion [8].

CONCLUSION

In conclusion, our case is a rare case in the literature of gastric adenocarcinoma presenting with bone metastasis detected in the second trimester of pregnancy. Pregnancy-associated gastric cancers are extremely rare, especially with bone metastasis. It is important to carefully evaluate the symptoms of low back pain and pregnancy-related nausea, vomiting, loss of appetite and weight loss symptoms that are common in pregnancy. The accurate diagnosis due to these overlapping symptoms should not be delayed.

Author Contributions

RB: corresponding author, writing manuscript, HA: collect patient's data, and SA: edit manuscript

Informed Consent

Written informed consent was obtained from the patient for the publication of this case report.

Conflict of Interest

The authors declared that there are no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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