

Pregnancy and Metastatic Gastric Cancer: A Case Report

Murat Özdil¹, Kemal Özerkan¹, Şehsuvar Gökgöz², Sibel Aker³, Gerçek Aydın²

¹Department of Gynecology and Obstetrics, Faculty of Medicine, Uludağ University, Bursa

²Department of General Surgery, Faculty of Medicine, Uludağ University, Bursa

³Department of Pathology, Faculty of Medicine, Uludağ University, Bursa

Abstract

Objective: The diagnosis of gastric carcinoma, which is mostly seen in older male population, is an uncommon condition during pregnancy period. Early diagnosis is particularly difficult due to increased gastrointestinal symptoms during pregnancy. However, surgery is the definitive treatment of gastric carcinoma, the gestational age must be taken in consideration.

Case: In our report, the diagnosis and clinical approach of a 34 week pregnant woman presenting with acute abdomen and ileus is discussed.

Conclusion: Although gastric carcinoma during pregnancy is an extremely rare situation diagnostic endoscopy may be helpful for persistent and refractory cases with gastrointestinal tract symptoms.

Keywords: Pregnancy, gastric carcinoma, metastasis.

Gebelik ve metastatik mide kanseri: olgu sunumu

Amaç: İleri yaş ve erkeklerde daha sık görülen mide kanserinin gebelik sırasında görülmesi oldukça nadir görülen bir durumdur. Gebelik sırasında artan gastrointestinal semptomlar bu tür hastalıkların erken tanısını zorlaştıran başka bir sıkıntıdır. Mide kanserinin tedavisi cerrahi rezeksiyon olup, gebelik için içine girdiğinde tedavi planı yapılırken gebelik haftası mutlaka göz önüne alınmalıdır.

Olgu: Bu yazıda, 34 haftalık gebeliği bulunan akut batın ve ileus klinik tablosu ile başvuran olguda tanı ve klinik yaklaşım tartışılmıştır.

Sonuç: Gebelikte mide kanseri oldukça nadir görülen bir durumdur. Bununla beraber persiste eden ve tedaviye dirençli gastrointestinal semptomları olan vakalarda yapılacak olan tanısal endoskopik girişim tanı ve tedavi açısından faydalı olacaktır.

Anahtar Sözcükler: Gebelik, mide kanseri, metastaz.

Background

Gastric carcinoma still keeps its importance in terms of its appearance frequency and bad prognosis. Gastric carcinoma is second cancer kind frequently seen as it has a broad geographic propagation in the world. It is seen in males twice than females. It is frequently seen between 5th and 7th decades and in low socioeconomic groups.¹ The most effective treatment of this cancer type is surgical resection but still survival period for 5 years in respectable gastric carcinoma changes between 11-32%.²

0.1% of gastric carcinoma is seen during gestation. Diagnosing the gastric carcinoma early is hard due to gastrointestinal system symptoms seen frequently in gestation and this delay at diagnosis affects prognosis negatively.³

It will be helpful to think gastrointestinal system illnesses at dispersive diagnosis in the existence of dyspeptic symptoms which are persistent and do not react to the treatment during gestation. In this case presentation, we reviewed gastric carcinoma seen rarely and its treatment approach together with literature research.

Case

31-years-old case having gravida 3, para 1, abortus 1 and gestation of 34 weeks as to the last menstrual period applied to our clinic with claims of stomach ache, gas- feces problems, nausea and vomiting for one week. It is found that the case which does not have any other illness or any operation has epigastric pains for one year and other symptoms appeared in the last one week. Distention, pervasive sensitivity and rebound in abdomen and decrease in intestine tones are found at the physical examination of the patient having no weigh loss. For vital findings, temperature was 38.5°C, pulse was 100-110/min, blood pressure was 110/70 mmHg.

In the laboratory examination; hemoglobin was found as 14.5 gr/dl, hematocrit was 41.7%, leukocyte was 16200, thrombocyte was 379000, glucose was 104 mg/dl, urea was 28 mg/dl, creatinin was 1.4 mg/dl, sodium was 135 mEq/L, potassium was 3.4 mEq/L, chlorine was 100 mEq/L, direct bilirubin was 1.2 mg/dl, AST was 23 UI/L, ALT was 15 UI/L, amylase was 45 UI/L and Ph in artery blood was found as 7.43. There was a living fetus which had 10 point for biophysics profile and showing biometric measurements compatible with 34-weeks- gestation in obstetric ultrasonography. Dilate intestinal segments and mud in gall bladder and free fluid about maximum 3-4 cm between perihepatic and intestinal loops are found in urgent abdominal ultrasonography.

When acute abdomen, ileus and a septic situation dominated in the case having gestation of 34 weeks, the patient was taken into an urgent operation. Median incision was applied to abdomen under general anesthesia. After entering into the abdomen, colon content qualified as purulence about 200 ml was found. A healthy male baby having 4 and 8 Apgar scores in 1st and 5th minutes weighing 2480 gram was born by transverse cutting of uterus low segment. Uterus was primarily closed appropriate with layers. It was seen after abdominal exploration that loops of small intestine and colons are quite dilated and that a mesocolon based mass closed the lumen on the left colon and it was seen that removed colon perforated from a 5 mm area of cecum. It was found that the mass closing the lumen on the left was holding whole

mesocolon from distal of left colon to splenic flexure. An exploration could not exactly being applied due to the fact that there was intensive adhesion in the abdomen. Total colectomy and end-ileostomy operation were applied to the patient by initial diagnosis of primary colon tumor. The operation was ended by placing a drainage catheter to the left paracolic area after haemostasis and irrigation.

Urea- creatinin values started to increase at 48th postoperative hour and bilateral hydronephrosis was found in renal ultrasonography. First, urethra catheter was inserted to the case. But urine flow was not obtained probably due to retroperitoneal edema related to surgery. Thereupon, bilateral nephrostomy catheter was inserted and than acute kidney failure status retrogressed.

After pathological examination of the material taken from the case, it was reported that "a membranous material accumulation about 17x4 cm was found beginning from 7th cm of proximal end on serosal surface of subtotal colectomy material which was about 58 cm. Thickening on wall and obstruction on lumen were observed in this segment. But no tumor lesion was found on colon lumen. In the microscopic examination of tissue samples taken from this area, intensive fibroplasia was found in subserosal adipose tissue and malign epithelial cells having large nucleus and prominent nucleoli constituting glandular structures within this fibroplasia area and there was adenocarcinoma in subserosal adipose tissue" (Figure 1). It was painted pervasive medium density positive with CK7 and focal potent positive with CK20 by immunohistochemistry paints. There were no painting with CA 19-9 and CA 125 paints.

A huge ulcer with white exudates and collapsed base about 2-3 cm was observed in antrum gastroscopy done in postoperative in order to determine the origin of this tumor. Biopsy taken from this area was resulted as "stony ring cellular adenocarcinoma".

The case having diagnosis of advanced gastric carcinoma can not be taken into the chemotherapy program due to acute renal failure, wound location infection and lack of performance above all in postoperative period. The case died in the postoperative 21st week.

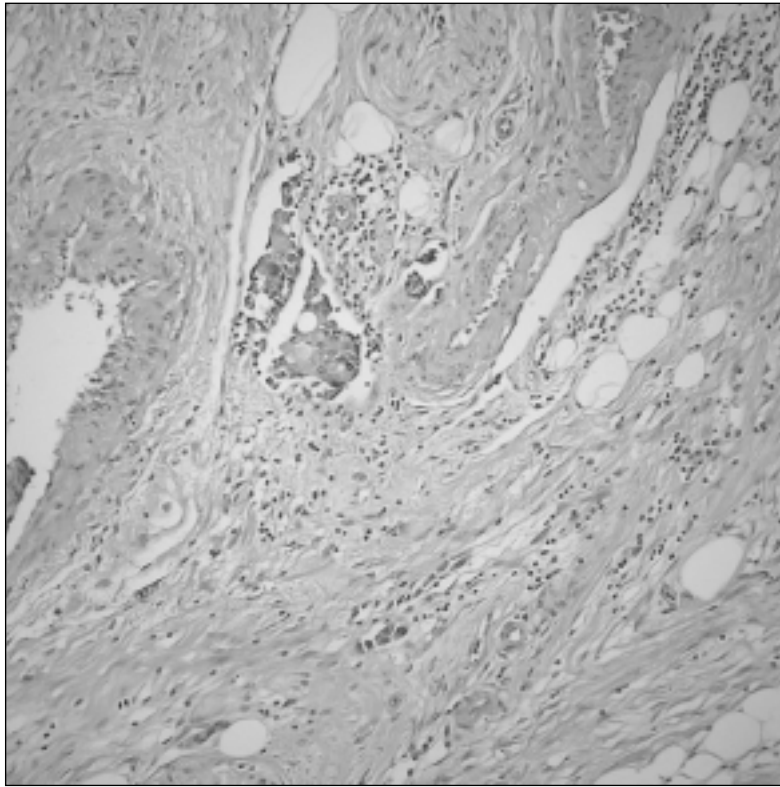


Figure 1. There are tumor cells which built small adenoid structure around vessel with in lipomatous tissue, and some of them dispersed one by one (HEx100).

Discussion

Gastric carcinoma incidence is found about 5.5% for young adults and about 94.5% for olds.⁴ Appearance incidence is high in Japan, Eastern Asia, South America and Eastern Europe countries.⁵ It is mostly seen in antrum and prepyloric areas and approximately 95% of it is adenocarcinoma histological type.

Symptoms such as epigastric pain, puffiness, weigh loss, nausea, vomiting, lack of appetite, hematemesis and melena can be seen even they are not specific symptoms of gastric carcinoma. Bad nutrition habit, genetic or chronic atrophic gastritis, *Helicobacter pylori* infection, low socioeconomic level may be considered as some important risk factors.⁶ The most important diagnosis way for gastric neoplasia is biopsy. Gastric carcinomas which are primarily treated by surgical resection are deemed as the most important prognostic factor for gastric serosal penetration at operable cases. Surviving period for 5 years after resection in case that serosa is not kept is over than

50%, prognosis becomes worse when serosa is kept.⁷ When the tumor reaches serosa, implantation metastases appear with shedded cells as appeared in our case.

Appearance incidence of gastric carcinoma during gestation is quite low and generally they are diagnosed in advanced phases. This latency in diagnosis is a bad prognosis factor and 88% of patients die in one year. On the contrary, rate of surviving period of 5 years in early phase gastric carcinoma exceeds 95%.⁸ In the first of the broadest studies published on this subject, Ueo et al, 96.7% of 61 cases of gestation and gastric carcinoma were on advanced phase during diagnosis. Again, in another study in which 92 cases are inspected, it was ascertained that only 2 cases were on early phase. As to the result of this study, it was found that gestation, younger age, female sex do not affect surviving.⁹⁻¹⁰ There are case presentations in which gastric carcinoma and complications (like perforation, Krukenberg tumor, peritonitis carcinomatosa) are found at gestation in literature.¹¹⁻¹² Furukawa et al alleged that sex hor-

mones caused gastric carcinoma progress and propagation by stimulating gastric precancerous lesions at gestation period.¹³ Amounts of vascular endothelial growing factor (VEGF) and placental growing factor (PIGF) from angiogenesis factors within normal and cancerous gastric tissues are compared in a prospective study done recently which seems supporting this study. PIGF level was found higher than VEGF level in gastric cancerous tissue. As a result of this study, it is found that PIGF level is associated with serosal invasion, lymph nod metastasis, phase and surviving.¹⁴

Approximately 70-85% of gestations have dyspeptic complaints, first of all nausea and vomiting. Though these symptoms are seen often in first trimester period, they may be seen in whole gestation period in 10% of pregnant.¹⁵ Non-existence of complaints such as prominent gastrointestinal system symptoms, anemia, hematemesis, melena and weigh loss and existence of acute abdomen and ileus in this case made us to think on a gastric pathology. Also, primary colon malignity within foundlings during operation supported this and surgical resection was done as to it. It is found that the case has gastric adenocarcinoma in the gastroscopy done as to pathological examination in postoperative period.

Treatment timing for gastric carcinomas found in gestation changes due to fetus. Ueo et al constituted 4 groups as to the gestation week for cases which could be applied surgical resection and they suggested making treatments according to these groups. As to this suggestion; first group includes cases before gestations of 24th week and surgical treatment is done without delaying by ending gestation due to the fact that fetus did not gain viability. Second group is the one between 24th and 29th gestation weeks. This group is the hardest one to decide and antenatal steroid is applied in this group and gestation is ended in the suitable gestational week. Third group is the one ascertained after 30th gestational week and thought for an operation after the birth. Last group is constituted by the cases which are diagnosed after the birth and are applied surgical resection.⁹ In our case, we do not have any problem in terms of fetal lung maturation due to the fact that gestation week was advanced and newborn baby maintained its life in a healthy way.

Consequently, early diagnosis and treatment of gastric carcinoma are the leading ones of the most

important factors affecting surviving. But, diagnosing in situations such as gestation that dyspeptic symptoms increase is hard, and it affects prognosis negatively. In the existence of gastrointestinal system symptoms which do not response treatment during gestation and continue in second and third trimesters, we are of the opinion that thinking malignities and gastrointestinal system illnesses in distinctive diagnosis and doing diagnostic endoscopic attempts in required states would be helpful.

References

- Göçmen E, Kocaoglu H. Mide kanseri epidemiyolojisi. *Türkiye Klinikleri Cerrahi Dergisi* 2000; 5: 161-2.
- Jatre JP, Meyer HJ. Total gastrectomy in the surgical treatment of primary gastric adenocarcinoma – a 30 year single institution experience. *Hepatogastroenterology* 2001; 48: 1222-6.
- Silverberg E, Lubera J. Cancer statistics. *Cancer* 1989; 39: 3-20.
- Theuer CP, Kurosaki T, Taylor TH, Anton Culver H. Unique features of gastric carcinoma in the young: a population-based analysis. *Cancer* 1998; 83: 25-33.
- Dicken BJ, Bigam DL, Cass C, Mackey JR, Joy AA, Hamilton SM. Gastric adenocarcinoma. *Ann Surg* 2005; 241: 27-39.
- Gore R. Gastrointestinal cancer. *Radiol Clin North Am* 1997; 35: 295-310.
- Abe S, Shiraishi M, Nagoka S, Yashimura H, Dhar DK, Nakamura T. Serozal invasion as the single prognostic indicator in stage IIA gastric cancer. *Surgery* 1991; 109: 582.
- Hirabayashi M, Ueo H, Okudaira Y, Matsumata T, Hanawa S, Sugimachi K. Early gastric cancer and a concomitant pregnancy. *Am Surg* 1987; 53: 730-2.
- Ueo H, Matsuoka H, Tamura S, Sato K, Tsunematsu Y, Kato T. Prognosis in gastric cancer associated with pregnancy. *World J Surg* 1991; 15: 293-8.
- Jaspers VK, Gillessen A, Quakernack K. Gastric cancer in pregnancy: Do pregnancy, age or female sex alter the prognosis? Case reports and review. *Eur J Obstet Gynecol Reprod Biol* 1999; 87: 13-22.
- Jasmi AY, Normala B, al-Amin MD. Perforated malignant gastric ulcer in a pregnant young adult: a case report. *Med J Malaysia* 2000; 55(1): 135-7.
- Cosme A, Ojeda E, Bujanda L, Torrado J, Barrio J. Krukenberg tumor secondary to gastric carcinoma in a woman in her eighth month of pregnancy. *Gastroenterol Hepatol* 2001; 24(2): 63-5.
- Furukawa H, Iwanaga T, Hiratsuka M, Fukuda I, Ishikawa O, Kabuto T, et al. Suppressive effect of sex hormones on spreading of stomach cancer. *Jpn J Cancer Chemother* 1989; 16: 3691-5.
- Chen CN, Hsieh FJ, Cheng YM, Cheng WF, Su YN, Chang KJ, Lee PH. The significance of placenta growth factor in angiogenesis and clinical outcome of human gastric cancer. *Cancer Lett* 2004; 213(1): 73-82.
- Jewell D, Young G. Interventions for nausea and vomiting in early pregnancy. The Cochrane Library, Issue 4, 2003. Chichester, UK: John Wiley & Sons, Ltd. (Meta-analysis)