

# Hyperemesis or stomach carcinoma in pregnancy – a true diagnosis with two lives saved: A case report

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## Summary

The cause of stomach carcinoma is still unclear but a variety of possible factors are presently under investigation. The clinical signs of stomach carcinoma are deceitful, and the disease is mainly asymptomatic. The first symptoms are dyspeptic disturbances, the feeling of satiety after meals, belching, and loss of appetite. This interesting and educative case starts with an almost classical story of a patient admitted with hyperemesis during pregnancy. She was a primipara, 18 years old, with a significantly low body mass index and electrolyte imbalance and at the 23<sup>rd</sup> week of gestation.

**Key words:** Hyperemesis; Stomach carcinoma; Pregnancy.

## Introduction

The cause of stomach carcinoma is still unclear but a variety of possible factors are presently under investigation. Many endogenous and exogenous factors have their own part in the pathogenesis of the disease. Factors that lead to the incidence of disease can be found in the environment (lead, zinc, soft water, asbestos, air pollution in cities), nutrition (high intake of salt, fats and oil, smoked meat, meat products, pickled food, insufficient intake of vitamin C), alcohol, smoking, type A2 blood group carriers and familial inheritance because twins get ill simultaneously [1, 3, 7]. Pernicious anemia, atrophic gastritis, adenomatous polyps, previous stomach surgeries and stomach ulcers are considered to be predisposing factors. The most common neoplasm of the stomach is adenocarcinoma. It is primarily present in the male population, and is very rare and appears in the sixth and seventh decade of life in women. Macroscopic stomach carcinomas are classified into several groups, and according to Borrmann's classification they can be polyps and fundus (type I), ulcerous (type II), and infiltrative (type III). The World Health Organization classified adenocarcinomas into: papillary, tubular, mucinous, and signet ring cell carcinomas depending on the predominant component of each one [2, 5]. Each of the groups has its own differentiation gradation, good, average and poorly differentiated tumor. Today, the Lauren classification supplemented by the Ming classification is used, according to the biological behavior of the tumor (expansive type - most frequently fundus and infiltrative - mostly diffuse carcinoma) [5]. The Lauren and Ming classification includes two groups: intestinal and diffuse type of carcinoma. It is impossible to determine the biological origin of stomach carcinoma. When stomach carcinoma appears, it takes a long time for it to become evident. Isukuma (1983)

observed that it takes five years on average for early stomach carcinoma to evolve to a progressive stage of disease [4, 6, 9].

The routes for stomach carcinoma spread are similar to other digestive tract carcinomas including a direct way of spreading (liver, pancreas, diaphragm, spleen, transverse colon, bile ducts), lymphogenous metastases (local and distant), hematogenous dissemination (liver, lungs, bones, brain) and peritoneal dissemination (superficial visceral and parietal metastases, Krukenberg tumor and others) [3, 7, 8]. The prognosis of stomach cancer depends on many factors and the following four are the most important: the depth of penetration, lymph gland metastases, histological type of the tumor and the expansiveness of surgery.

The clinical signs of stomach carcinoma are deceitful, and the disease is mainly asymptomatic. The first symptoms are dyspeptic disturbances, the feeling of satiety after meals, belching, and loss of appetite. Later, vomiting, abdominal pain and anemia because of acute tumor bleeding can appear. The patients lose weight even though there are no obstructive disturbances. In the advanced stage of the disease a palpable tumor, ascites and supraclavicular glands (Virchow) can be found. Laboratory analyses show anemia, occult blood in the stool, and anacidity. X-rays of the lungs and bones may detect metastases. Contrast imaging of the stomach is the first diagnostic procedure. If hypo or anacidity is found, gastroscopy and gastric secretion examinations are performed. Ultrasound and CT as well as echoendoscopy procedures are carried out [2, 5]. The CEA marker is not valid in these examinations.

The treatment is radical surgery, partial or total gastrectomy with systematic or extensive lymphadenectomy. Total gastrectomy with systematic lymphadenectomy includes "en bloc" resection of the surrounding organs, above all the distal pancreas and then the left globe of the

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liver and transverse colon. The aim of lymphadenectomy is to determine the exact TNM (tumor, nodes, metastases) stage of the disease, to increase resectability and at the same time to decrease local recurrence and enable a greater 5-year survival rate.

### Case report

This interesting and educative case starts with an almost classical story of a patient admitted with hyperemesis during pregnancy. She was a primipara, 18 years old, with a significantly low body mass index and electrolytic imbalance at the 23<sup>rd</sup> week of gestation. The clinical picture presents a patient not only with a bad socio-economic status but also with general cachexia. Hyperemesis gravidarum at the 23<sup>rd</sup> week of gestation in a wanted pregnancy? We started by taking the family history and completed specific diagnostic methods, strictly obeying the basic medical principle. The patient told us that her twin brother had died earlier of digestive tract carcinoma of unknown etiology. She also told us that her weight loss had started even before the pregnancy. The loss of appetite increased during pregnancy and weight gain totaled 7 kg until the 23<sup>rd</sup> week of gestation. Constipation and diarrhea were replaced by turns. Black stools at the beginning of the pregnancy were attributed to a larger intake of spinach. The patient had no appetite, felt satiated, and had occasional belching and bloating. In view of the family history, all symptoms before the pregnancy had reasonable explanations to a certain extent. Due to the laboratory findings and also the fact that the condition did not improve after intravenous and parenteral therapy with an ongoing electrolyte imbalance, we decided to perform further examinations with the patient's consent and in agreement with her family. At the 23<sup>rd</sup> week of gestation we subjected the patient to X-ray imaging with barium, protecting the lower part of the pelvis and uterus. Gastroscopy, biopsy and X-ray findings gave us a clear picture and the symptoms became interpretable. We obtained data about stomach adenocarcinoma of the intestinal type. Following specialist team consultations, intensive treatment was performed after gastric suction and stomach relaxation. The electrolytic imbalance was maintained by Hartmann's (Ringer's) solution with a total of four doses of freshly harvested erythrocytes and 12 liters of plasma in the following four-week period. The pregnancy was regular without signs of feto-placental insufficiency or fetal growth retardation. At the 27<sup>th</sup> week of gestation, under ultrasound control, 4 mg of bethamethasone and 0.5 g of longaceph were administered to the fetus. After 24 hours, the quantity of lamellar bodies was checked in the embryonic fluid, resulting at 28,000 cells/ml. We decided to perform radical surgery. The delivery ended operatively by medial laparotomy with the birth of a healthy female neonate weighing 980 g. The baby was transferred to Pediatric Intensive Care and was treated by endotracheal surfactant for eight weeks and continuous biochemical and oxygenation support, antibioprophyllaxis and blood derivatives. Eight weeks later, the child's condition was no longer critical. After cesarean section, the mother was sent for further surgical treatment. Gastrectomy of Bilothe 2 was performed, with the preparation of the patient on the seventh day after delivery. Histological findings pointed to T1 N0 M0 classification of the disease, i.e. mucous and submucous tumor, and the non-existence of positive lymph nodes and metastases in the regional lymph glands. Considering the classification of the disease, it was decided to preserve the reproductive organs and no hysterectomy was performed keeping in mind the patient's age and stage of the disease.

### Discussion

A proper and complete diagnosis is a necessary approach for each patient. Recording the patient's history and not accepting the conclusions of the patient but to approach each problem completely and medically. The question is – should the necessary diagnostic procedures be used during pregnancy? According to the literature, the mother's health is primary. With all the data about family history, type A2 blood group (which is known for carrying a greater risk of stomach carcinoma) and the general clinical picture, we had to follow the biblical principle for perinatology and obstetrics in our case – the mother's health comes first. However, by using modern methods for fetal maturation, we enabled this young woman to give birth to a healthy child and to preserve her own life. Appropriate and complete diagnoses, the use of internal medicine and surgery make gynecology more sound and effective.

### Conclusion

Our conclusion is that there are no rules in our practice. Each patient is treated as a unique case. Percentages are not valid in medicine and in perinatology they carry double values. With the proper diagnosis and cooperation between an internist, radiologist, endoscope specialist, gynecologist, pediatrician, anesthesiologist and surgeon, the lives of both the mother and baby were saved.

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