

Gastric cancer – A review

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ABSTRACT

Stomach cancer, also called as gastric cancer, is a malignant tumor arising from the lining of the stomach. Somehow, there has been a significant decrease in the number of people diagnosed with gastric cancer for the past 60 years. According to the American Cancer Society, the estimated numbers of new cases are 21,320 and deaths from gastric cancer are 15,070 in the USA. The exact reason why a cell becomes cancerous is unclear, but when something damages or alters certain genes in the cell, it may get cancerous. This makes the cell abnormal and multiplies out of control. A cancerous tumor starts from one abnormal cell. Stomach cancers are classified according to the type of tissue where they originate. The most common type of stomach cancer is adenocarcinoma. Gastric cancer cells can spread by breaking away from the original tumor. They enter the blood vessels or lymph vessels, through which they can travel to all the tissues of the body. This process is called metastasis. This article discusses about cancer and how stomach cancer spreads, stages, causes, symptoms, diagnosis, and treatment of gastric cancer.

KEY WORDS: Cancer, Gastric, Malignancy

INTRODUCTION

Stomach cancer, also called as gastric cancer, is a malignant tumor arising from the lining of the stomach. Somehow, there has been a significant decrease in the number of people diagnosed with gastric cancer for the past 60 years. According to the American Cancer Society, the estimated numbers of new cases are 21,320 and deaths from gastric cancer are 15,070 in the USA.^[1] The exact reason why a cell becomes cancerous is unclear, but when something damages or alters certain genes in the cell, it may get cancerous. This makes the cell abnormal and multiplies out of control. A cancerous tumor starts from one abnormal cell.

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spreads, stages, causes, symptoms, diagnosis, and treatment of gastric cancer.

Cancer is a disease of the cells in the body. The body is made up of millions of tiny cells. There are many different types of cells in the body, and there are many different types of cancers which arise from different types of cells. A common criterion that all types of cancers is that the cancer cells are abnormal and multiply out of control. As the cancerous cell grows, malignant tumors invade into nearby tissues and organs, which can cause damage. Malignant tumors may also spread to other parts of the body. Some cancers can be cured and some cancerous cell cannot be cured.

The stomach is a hollow organ in the upper abdomen, under the ribs. It is part of the digestive system. Food moves from the mouth through the esophagus to the stomach. In the stomach, the food becomes liquid. Muscles in the stomach wall push the liquid into the small intestine. The stomach has five parts which are cardia, fundus, body, antrum, and pylorus. The stomach wall has five layers which are the inner layer or lining (mucosa), submucosa, muscle layer, subserosa, and the outer layer (serosa). As a cancer grows from the mucosa into deeper layers, the stage becomes more advanced and the prognosis is not as good.

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DISCUSSION

First, gastric cancer begins from the cell which is from the mucosa, the inside lining of the stomach. This type of gastric cancer is called adenocarcinoma of the stomach. As the cancer cells multiply, the tumor may invade deeper into the wall of the stomach. Simultaneously, it can pass through the wall stomach and invade in nearby organs. The tumor may spread up or down the stomach into the esophagus (gullet) or small intestine. Some cells may break off into the lymph channels or bloodstream, and then, it will spread to the lymph node.^[3] There are some less common and rare types of stomach cancer which include the lymphomas, these are cancers which arise from the lymphatic tissue within the wall of the stomach. Sarcomas are cancers which arise from the muscle or connective tissue within the wall of the stomach. Carcinoid cancers are cancers which arise from cells in the stomach lining which make hormones.^[4]

Many people develop gastric cancer for no apparent reason. However, certain risk factors increase the chance that gastric cancer may develop. These include aging, as stomach cancer is more common in older people. Most cases are in people over the age of 55 years. Having a type of anemia called pernicious anemia, which causes a lack of Vitamin B12, can very slightly increase your risk of stomach cancer. Diet is probably a factor: Countries such as Japan, where people eat a lot of salt and pickled and smoked foods, have a high rate of stomach cancer. Eating a lot of fruit and green vegetables can reduce the risk. Smokers have a higher rate of stomach cancer compared with people who do not smoke.^[5] Long-term infection of the stomach lining with a bacterium called *Helicobacter pylori* seems to lead to a slightly higher risk of stomach cancer. Gender also plays an important role as gastric cancer is twice as common in men as in women.^[6] Family history is one of the factors as in cases, stomach cancer may run in the family. However, most cases of stomach cancer do not run in families and are not inherited. People who have blood group A have a slightly higher risk.^[7]

Initial symptoms may include pain or discomfort in the upper abdomen, especially after eating, indigestion, feeling sick, and off food. Some people have a sense of fullness after eating, weight loss, and/or loss of appetite.^[8]

Stomach cancer is diagnosed by physical examination, endoscopy, biopsy, chest X-ray, computed tomography scan, endoscopic ultrasound, and laparoscopy.^[9]

Stages of gastric cancer are as follows: Stage 0, in which the tumor is found only in the inner layer of the stomach; Stage I, in which the tumor has invaded

only the submucosa; Stage II, in which the tumor has invaded only the submucosa and cancer cells have spread to 7–15 lymph nodes; Stage III, in which the tumor has invaded the muscle layer; and Stage IV, in which cancer cells have spread to more than 15 lymph nodes.^[10]

Treatment Options for Gastric Cancer

Treatment options which may be considered include surgery and chemotherapy. Stages of gastric cancer and general health determine treatment and its prognosis.^[11] In surgery, cutting the affected part of the stomach is the most common procedure. Sometimes, this is done laparoscopically. Some surgical techniques are performed even if the cancer is not in curable stage.^[12] Chemotherapy is performed to kill the cancerous cell and stop them from multiplying. When chemotherapy is used in addition to surgery, it is known as adjuvant chemotherapy. Radiotherapy is a treatment which uses high-energy beams of radiation which are focused on cancerous tissue.^[3] This kills cancer cells or stops cancer cells from multiplying. Radiotherapy is not commonly used to treat stomach cancer.^[4,5] Chemoradiotherapy is a combination of chemotherapy and radiotherapy shortened to chemoradiotherapy, which acts as additive to surgery management.^[6]

CONCLUSION

Gastric cancers are slow-growing cancer. Pre-cancerous changes often occur in the inner lining of the stomach before true cancer develops, and this will rarely show any symptoms.^[13] Symptoms and outcome depend on the site where the cancer is developed.^[7,14] Lymph nodes are bean-sized structures that help fight infections, and the stomach has a very rich network of lymph vessels and nodes. As the stomach cancer becomes more advanced, it can travel through the bloodstream and spread to organs such as the liver, lungs, and bones. If cancer has spread to the lymph nodes or to other organs, the patient's outlook is not as good.^[15]

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