

Gastrointestinal Malignancies: Types, Risk Factors, Diagnosis, and Treatment Methods

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DESCRIPTION

Gastrointestinal malignancies, also known as digestive system cancers, encompass a broad spectrum of malignancies that affect various organs within the gastrointestinal tract. These cancers pose a significant health burden globally and can have a substantial impact on patients' quality of life.

Types of Gastrointestinal Malignancies

Esophageal cancer: Esophageal cancer arises in the lining of the esophagus, the muscular tube that carries food from the mouth to the stomach. The two main types are squamous cell carcinoma and adenocarcinoma. Risk factors include smoking, heavy alcohol consumption, obesity, gastroesophageal reflux disease (GERD), and Barrett's esophagus.

Stomach cancer: Stomach cancer, or gastric cancer, typically starts in the inner lining of the stomach. Adenocarcinoma is the most common type. Risk factors include infection with *Helicobacter pylori* bacteria, smoking, a diet high in salted or smoked foods, certain genetic conditions, and a family history of stomach cancer.

Colorectal cancer: Colorectal cancer affects the colon or rectum. It usually begins as a polyp, a noncancerous growth, that can develop into cancer over time. Risk factors include age, family history of colorectal cancer, personal history of polyps or inflammatory bowel disease, a diet high in red or processed meats, obesity, and sedentary lifestyle.

Liver cancer: Liver cancer can originate in the liver itself (primary liver cancer) or spread to the liver from other sites (secondary or metastatic liver cancer). Hepatocellular carcinoma is the most common type of primary liver cancer. Risk factors include chronic viral hepatitis (B or C), excessive alcohol consumption, nonalcoholic fatty liver disease, and certain inherited liver diseases.

Pancreatic cancer: Pancreatic cancer arises in the tissues of the pancreas, a glandular organ located behind the stomach. The majority of pancreatic cancers are adenocarcinomas. Risk factors include tobacco smoking, obesity, chronic pancreatitis, diabetes, family history of pancreatic cancer, certain inherited genetic conditions, and older age.

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Risk Factors and Prevention

Lifestyle factors: Certain lifestyle choices and habits can contribute to the development of gastrointestinal malignancies. These include tobacco smoking, excessive alcohol consumption, unhealthy diet (low in fiber, fruits, and vegetables; high in processed foods), obesity, sedentary lifestyle, and chronic inflammation of the digestive system.

Infectious agents: Some gastrointestinal malignancies are associated with infections. For instance, *Helicobacter pylori* infection increases the risk of stomach cancer, while chronic viral hepatitis B or C infection is a major risk factor for liver cancer. Vaccination against hepatitis B can help prevent liver cancer.

Inflammatory conditions: Chronic inflammation of the digestive system, such as in inflammatory bowel diseases (e.g., ulcerative colitis, Crohn's disease), is linked to an increased risk of colorectal cancer. Proper management and monitoring of these conditions are crucial for cancer prevention.

Genetic and family history: Certain genetic conditions, such as Lynch syndrome and Familial Adenomatous Polyposis (FAP), increase the risk of gastrointestinal malignancies. Additionally, having a family history of these cancers may elevate an individual's risk. Genetic counseling and testing may be recommended in specific cases.

Diagnosis of Gastrointestinal Malignancies

The diagnosis of gastrointestinal malignancies involves a combination of medical history assessment, physical examination, imaging studies, laboratory tests, and tissue

biopsy. The specific diagnostic process may vary depending on the suspected site of the malignancy. Here are the common diagnostic approaches for gastrointestinal malignancies:

Medical history and physical examination: The healthcare provider will gather a detailed medical history, including any symptoms or risk factors associated with gastrointestinal malignancies. They will also perform a physical examination to evaluate the patient's overall health and identify any suspicious findings.

Imaging studies: Endoscopic procedures, such as colonoscopy, sigmoidoscopy, or enteroscopy, allow direct visualization of the gastrointestinal tract. These procedures can detect abnormalities, such as tumors, ulcers, or polyps, and enable tissue sampling for further analysis. b. Imaging scans: Radiological imaging techniques, including Computed Tomography (CT), Magnetic Resonance Imaging (MRI), or Positron Emission Tomography (PET), are used to assess the extent of the tumor, determine the presence of metastasis, and aid in treatment planning.

Laboratory tests: Routine blood tests, including Complete Blood Count (CBC), liver function tests, and tumor markers (e.g., carcinoembryonic antigen for colorectal cancer, alpha-fetoprotein for liver cancer), help assess the overall health status and provide supportive information. b. Stool tests: Fecal Occult Blood Test (FOBT) or Fecal Immunochemical Test (FIT) may be performed to detect the presence of blood in the stool, which can indicate gastrointestinal malignancies.