

Progress in research on digestive system oncology

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Xianglin Yuan, Professor of Oncology, Doctoral Supervisor, Deputy Director of the Oncology Department and Director of the Digestive System Oncology Department, Tongji Hospital, Tongji Medical College of HUST, China. Yuan discovered that CT/CC genotypes of the TGFβ1 rs1982073: T869C gene were associated with a low risk of radiation pneumonitis (RP) in patients with non-small cell lung cancer (NSCLC) treated with definitive radio(chemo)therapy and thus might serve as a reliable predictor of RP (Journal of Clinical Oncology, 2009; cited over 70 times). He indicated that genetic variations in PI3K-AKT-mTOR could predict brain metastasis in patients with NSCLC (Journal of Clinical Cancer Research, 2014). He also discovered that among the candidate genes involved in the TGF-β pathway, polymorphisms of SMAD3 appeared to be highly predictive of outcome in patients with lung adenocarcinoma after gefitinib treatment, especially in those with epidermal growth factor receptor mutations (Annals of Oncology, 2014). He has published about 30 articles found in the Science Citation Index (SCI) and has managed 3 items of the National Natural Science Foundation of China. He is an expert in radiation therapy and comprehensive therapy for common malignant tumors such as esophageal, gastric, liver, colorectal, and lung cancers. He now holds the following responsible positions: Chairman, Oncology Committee, Wuhan Medical Association; Chairman, Committee of Molecular Marker and Translational Medicine, Hubei Anti-Cancer Association; Vice Chairman, Committee of Radiation Therapy, Hubei Anti-Cancer Association; Member, Executive Committee, Chinese Society of Clinical Oncology; member, Committee of Tumor Marker, Chinese Anti-Cancer Association.



Digestive system cancers are common causes of cancer-related deaths. In recent years, many reports on the progress in research on digestive system cancers, from etiology to therapy, have been published. In this column, we mainly introduce the achievements in four different aspects.

Human papillomavirus (HPV) is the primary etiologic factor in many malignant tumors such as cervical, anal, and oropharynx cancers. Among 80 well-categorized types, the high-risk HPV 16 and HPV 18 types are involved in 70% of cervical cancer cases. The HPV vaccine shows good effectiveness in the prevention of cervical cancer. However, the role of HPV in the development of esophageal cancer remains controversial. In latest reports, patients with HPV 16 infection showed an increased risk of esophageal cancer. This suggests the potential role of HPV in the etiology of esophageal cancer. In this column, we present the relationship between HPV and esophageal cancer.

Helicobacter pylori infection is a primary etiologic factor in gastric cancer. *H. pylori* eradication may help inhibit the development of gastric cancer. However, only a few individuals with *H. pylori* infection develop gastric cancer. This suggests that *H. pylori*-related gastric cancer is not only determined by *H. pylori* infection but also by the host's genetic susceptibility. According to recent studies, many inflammatory gene variants were found to participate in the immune and inflammatory responses associated with susceptibility to *H. pylori*-related gastric cancer. In this review, we introduce the probable mechanisms of *H. pylori*-related gastric cancer development, including host inflammatory gene variants and some single-nucleotide polymorphisms in the genes related to the host inflammatory response. An in-depth study of inflammatory gene variants may help uncover more effective treatments for *H. pylori*-related gastric cancer, related to alteration of susceptibility.

Patients with colorectal cancer liver metastases (CLM)

may have good prognoses. If the liver metastases were resected. They should be systemically evaluated and treated with multidisciplinary treatment. It is necessary to distinguish metastases as potentially resectable or unresectable. Transformational therapy is essential for patients with potentially resectable metastases to acquire an opportunity to undergo radical surgery. Common transformational therapies include chemotherapy, targeted therapy, and interventional therapy. Systemic chemotherapy is the first-line treatment of choice for patients who are unsuitable to undergo radical resection. According to reports, chemotherapy can significantly decrease metastatic lesions and increase the R0 resection rate. In comparison with single-agent chemotherapy, the combination of targeted therapy (cetuximab or bevacizumab) and chemotherapy can further improve the R0 resection rate. Other transformational therapies such as interventional therapy and ablation are also effective in improving the radical resection rate. In this column, we systemically review the transformational therapies for CLM.

Many Chinese cancer patients worry about what foods

are suitable to eat. Thus, psychological changes related to diet can occur when diagnosed with cancer. In this column, we introduce the results of a survey on psychological changes related to diet among cancer patients in China. Many patients were found to avoid certain foods considered as probable causes of tumor recurrence or metastasis. Another reason for avoiding certain foods is the traditional Chinese folk customs. Avoidance of intake of certain foods among cancer patients was related to sex, educational level, and dwelling. Malnutrition is a common problem among Chinese cancer patients, especially among those with digestive system cancer. Nutritional status is considered to be significantly related to both curative effect and adverse outcomes. This suggests that physicians should focus on the nutritional status of patients in order to help them overcome psychological barriers and to provide proper guidance on diet.

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