

FIGHTING GASTRIC CANCER ON ALL FRONTS

A conversation with **JI JIAFU**, M.D., Ph.D., President, Peking University Cancer Hospital & Institute



Established in 1976, Peking University Cancer Hospital & Institute is a prestigious centre for cancer prevention and treatment in China. Integrating medical research, teaching, and treatment, it has developed strength in treating common tumours, especially gastrointestinal cancer. Here, Ji Jiafu, the hospital's president and a renowned gastrointestinal surgeon, discusses a plan for a comprehensive gastric cancer prevention and treatment system.

What led you to focus on gastric cancer?

Gastric cancer is the third leading cause of cancer death worldwide. China is one of the countries with the highest incidence, with approximately 450,000 new gastric cancer cases every year. Given this heavy burden, gastric cancer has become a critical clinical and research focus of our hospital since its founding. When I joined the hospital as a surgeon almost 30 years ago, I was drawn to this field to make a difference.

What progress have you seen for gastric cancer treatment in China?

Our tremendous progress can be best demonstrated in the improved survival rate. As shown in a study on global cancer burdens, published in *Lancet* last year, China has one of the most substantial improvements in gastric cancer survival count worldwide, the rate of which has increased by nearly 20% in the past 10 years. This could primarily be attributed to our process innovation, including the standardization of radical surgery and the establishment of a comprehensive treatment system.

How do you define process innovation?

In other industries, process innovation may refer to new production or delivery methods that bring significant profit growth. In healthcare, the core is improving health and providing care for patients. In this regard,

I find it essential to enhance our provision of medical procedures by highlighting standardization, which reduces uncertainties in medical practices.

For instance, gastrectomy with D2 lymphadenectomy is the standard surgery for advanced-stage gastric cancer patients in Asia. However, it is technically demanding and associated with increased surgical morbidity and mortality. We have developed a modularized gastrectomy, which disassembles the procedure into 12 ordered modules, each with standardized operational steps, making the surgery a safe and standard process. To date, we have trained more than 10,000 surgeons nationwide with this approach. China's mortality rate of D2 gastrectomy is at a historic low of 0.24%, and we hope to promote this approach worldwide.

Why is it essential to establish a comprehensive system for diagnosis and treatment?

Gastric cancer is a clinically and genetically complicated disease. While surgery remains the cornerstone for its treatment, it is not a comprehensive approach. Pre- and post-surgery care are integral. It is essential to target gastric cancer in different phases. We need a system that delivers effective prevention procedures, early detection, accurate diagnosis, and comprehensive treatment that integrates surgery, drug use, and attentive care. This requires collaboration between patients, their families, communities, healthcare institutions, and the

government for policy support.

Take our latest work on minimally invasive surgery as an example. It was the first phase III randomized controlled trial to confirm the efficacy of laparoscopic gastrectomy with D2 lymphadenectomy, which will bring patients less surgical trauma and faster recovery, and facilitate adjuvant chemotherapy. Additionally, we completed Asia's first international trial to establish CapOX chemotherapy as the preferred option of peri-operative treatment for gastric cancer, which increased the 3-year disease-free survival rate from 56% to 78%. These world-leading efforts to embrace different methods show our commitment to improving safety and effectiveness by making treatment a standardized and integrated system.

What are the challenges for establishing such a comprehensive system?

In the screening and early detection of gastric cancer, the lack of evidence for its cost-effectiveness is a big challenge, along with insufficient public awareness of its importance and the shortage of competent endoscopists. In diagnosis, how to accurately determine the stage of gastric cancer before surgery remains an issue. When it comes to treatment, there are challenges in identifying an ideal treatment model, further improving the safety and efficacy of laparoscopic gastrectomy, and ascertaining molecular mechanisms of

metastasis and progresses.

Mobilizing resources to address all these is also not easy. We have already achieved many goals, but still have a way to go.

What are efforts taken at the hospital to overcome these issues?

To enable early detection, we have set up four gastric cancer screening sites in Shandong where gastric cancer incidence is high, attempting to advance our knowledge via field research. This effort has provided a wealth of epidemiological and clinical resources for epidemiological studies. One of the most critical accomplishments in this area was the study on *Helicobacter pylori* infection, which suggested that the eradication of these bacteria should be a population-wide strategy in gastric cancer prevention.

To provide valuable assets for basic research, we also built a gastric cancer biobank in 1996, which stores more than two million samples. So far, it has contributed to 104 research projects, including the International Cancer Genome Consortium, leading to hundreds of quality journal publications.



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Peking University Cancer Hospital

LEADING CLINICAL RESEARCH ON GASTRIC CANCER



1976

Established China's first research team specialized in gastric cancer

Participated in the CLASSIC trial, leading to the establishment of XELOX as the standard regimen for adjuvant chemotherapy; results published in *Lancet*

2007



2012

Discovered that *Helicobacter pylori* eradication reduced gastric cancer incidence by 39%, forming the basis of the World Health Organization's strategy for gastric cancer prevention

Completed China's first phase III randomized controlled trial on perioperative chemotherapy for gastric cancer (the RESOLVE study)

2017



2017

Professor Ji Jiafu elected as the president of the International Gastric Cancer Association, the first Chinese person to serve in the role

Completed the world's first phase III randomized controlled trial on laparoscopic D2 gastrectomy; results published in *JAMA*

2019

