

Prof Jianmin Xu from Zhongshan Hospital, Fudan University and Professor Simon S. M. Ng from Chinese University of Hong Kong are now going to apply for a Chinese Science and Technology Award. After my review of their work project and performance, I highly recommend that they are good candidates to apply for this fantastic award. Their project entitled “the individualized medicine and whole course management of colorectal cancer” was from three aspects: early diagnosis and treatment of colorectal cancer, surgery, and recurrence prevention and treatment. Through their project, they improved the 5-year survival rate of total patients to 79.2%, also improved the quality of life, of which 5-year survival rate in China was only 32% in 2005 according to WHO.

The following impressive achievement was accomplished by Prof. Xu in recent years:

1. Promoting early screening of colorectal cancer and early treatment with colonoscopy:
 - (1) Promoting the risk questionnaire combined with fecal occult blood test for screening;
 - (2) Contributing innovative serum protein mass spectrometry model and serum 5-hmC model for early diagnosis;
 - (3) The first one in China to use anal tubes to reduce perforation after ESD and to use laparoscopic surgery to repair the perforation of colonoscopy.

2. Contributing innovative minimally invasive surgery and strategy of enhanced recovery after surgery (ERAS) for colorectal cancer:
 - (1) The first one in China to conduct laparoscopic colorectal cancer surgery, with several RCTs reducing complications by 10%-22%, published in *Ann Surg*, *Ann Surg Oncol*, etc.;
 - (2) The first one in China to conduct robotic abdominoperineal resection, with an RCT reducing complications 13% compared with laparoscopic surgery, and 20% compared with open surgery; also the first one in China to conduct robotic natural orifice specimen

extraction surgery (NOSES); conducting the largest number of robotic colorectal cancer surgeries in China;

(3) The first one in China to conduct emergency laparoscopic surgery and emergency colonoscopy stent + minimally invasive surgery for acute obstruction of colorectal cancer;

(4) The first one in China to apply the ERAS strategy for colorectal cancer surgery; and improved the ERAS strategy with acupuncture and minimally invasive surgery, conducting the first RCT published in *Gastroenterology*;

(5) Leading the establishment of the engineering center for research and development of minimally invasive equipment, applying for 52 patents and authorizing 12 items.

3. Contributing innovative methods for predicting, preventing and treating recurrences and metastases of colorectal cancer

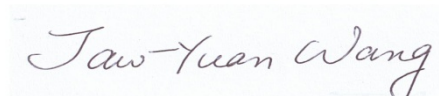
(1) Finding CDKL1, HOXC6, PRS15A, ICT1, CDR1as, tumor infiltrating mast cells, cfDNA, LncRNA-CLMAT1/3 as prognostic biomarkers and explain the molecular mechanism;

(2) The first one to find CD206+/CD68+TAMs ratio predicting the efficacy of postoperative adjuvant chemotherapy for stage II colon cancer, published in *Clin Cancer Res*; constructing innovative multi-gene model predicting the efficacy of cetuximab for the treatment of *RAS* wild-type colorectal cancer liver metastases, significantly improving the response rate (62%→83%); finding *KRAS*, *BRAF* gene and tumor deposits predicting the prognosis of simultaneous resection of colorectal cancer liver metastases; constructing innovative patient organoid-derived tumor xenograft model on mouse for colorectal cancer drug sensitivity testing;

(3) The first one to conduct intraoperative intraportal chemotherapy to prevent recurrence and metastases, significantly improving the 3-year DFS of stage III patients

(69.4%→81.2%), published in *Ann Surg*; the first one to use cetuximab for cross-line therapy for patients with first-line early tumor shrinkage, significantly prolonging second-line PFS (7.7 vs. 4.5 months) and OS (21.1 vs. 14.3 months); using bevacizumab for conversion therapy for *RAS* mutant colorectal cancer liver metastases, with an RCT significantly improving conversion resection rate (22.3% vs 5.8%) and OS (25.7 vs. 20.5 months), oral presentation at the 2019 ESMO conference.

In the past years, they have also led to establish the world's first *Expert Consensus on Robotic Surgery for Colorectal Cancer*; published 92 papers, including 42 SCI (IF=143.4), cited by 1189 times; edited one English book; held 14 sessions of Shanghai International Colorectal Cancer Symposium with more than 10,000 person attending; held more than 100 sessions of minimally invasive surgery classes with more than 2,500 students. This results of this project has been extensively used in more than 50 hospitals across China, benefiting more than 50,000 applications.

A handwritten signature in cursive script, reading "Jaw-Yuan Wang". The signature is written in dark ink on a light-colored, slightly textured background.

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