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A randomized prospective clinical study in three endoscopic diagnostic modalities for early gastric cancer

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Abstract

Gastric cancer has been one of the leading causes of cancers in worldwide, as well in China. Early gastric cancer has good prognosis with the survival rate over 90%, and could be cured by endoscopic resection (such as ESD or EMR). Narrow band imaging (NBI) and chromoendoscopy have been the most valuable modalities for early gastric cancer diagnosis. To compare detection rate of early gastric cancer and precancerous lesion of different endoscopic modalities, we conducted a prospective radomised study. The inclusion creteria was the patients over 40 years old who received EGD and signed informed consent documents. All the subjects were radomised into three group: magnified chromoscopy with indigo carmine (IC) group, magnified chromoscopy with indigo carmine added to acetic acid (ICAA) group, and magnified pharmacoendoscopy with epinephrine(PE) group. During the endoscopic procedure, white light endoscopic (WLE) investigation was performed to the whole gastric mucosa. Then the NBI mode was switched on to repeat systematic examination with low power magnified NBI, then to focus on suspicous lesions with the highest power magnification. Thirdly, randomised additional endoscopic modality was performed. At last, the suspicous lesions were sampled for pathological examination. Endoscopic images of the whole procedures were recorded for later evaluation. All the endoscopic images were systemically reviewed by at least three of those experienced endoscopists, and made WLE diagnosis, NBI diagnosis, and diagnosis for IC, ICAA, or PE respectively. We took the endoscopic criterion of Tanaka classification to make the endoscopic diagnosis for inflammation, intestinal metaplasia, low grade intraepithelial neoplasia, and high grade intraepithelial neoplasia or cancer. Totally 1030 patients were recruited during the period from March 1 2010 to December 31 2012: 356 in IC group, 329 in IC-AA group, and 345 in PE group. The sensitivity for EGC endoscopic diagnosis of WLE, NBI, IC, ICAA and PE for EGC were 67.74%, 100%, 83.33%, 80.00% and 88.33% respectively. The specificity were 99.27%, 98.54%, 97.52%, 98.29%, and 98.04%. For the precancerous lesions, the pathological consistency of WLE, NBI, IC, ICAA and PE were 65.44% (kappa=0.5298), 69.52% (kappa=0.5751), 69.64% (kappa=0.5567), 69.60% (kappa=0.5462), 70.14% (kappa=0.6201). We concluded that magnified NBI endoscopy, IC or ICAA chromoendoscopy and pharmacoendoscopy with PE had the similar diagnostic value for EGC, while these modalities had moderate pathological consistency for the precancerous lesions.

Biography

Dr. Xi WU received her M.D. in Fudan University in 1995, and Ph.D. degree in Peking Union Medical College in 2009. As a clinical doctor, she has been involved in gastroenterology for more than ten year, and been focused in gastrointestinal endoscopic therapy and the rearch of early cancer diagnosis in recent years.