

摘要

京都胃炎评分判断 Hp 感染状态及早期胃癌风险的应用价值

目的:

多项研究证实了京都胃炎评分对预测 Hp 感染及胃癌风险的准确性和有效性。但目前此类研究主要集中于国外，国内应用及报道较少，本实验旨在研究京都胃炎评分系统对于 Hp 感染状态的评估以及预测胃癌发生风险的应用价值。

方法:

收集本院内镜中心 2021 年 1 月-2021 年 12 月期间内镜表现考虑 Hp 感染且行 ^{14}C 呼气实验的患者共 301 例，收集所有研究对象的基本资料，包括年龄、性别、Hp 感染状态（呼气试验结果）、吸烟史及饮酒史、共餐饮史。对于可疑存在恶变并需要行活检的患者，活检后收集患者病理资料。根据京都胃炎评分对各患者胃黏膜状态进行评分及分组，统计学分析对比各组中 Hp 感染患者的情况，并对行活检患者的数量和病理情况也进行统计学分析，研究京都胃炎评分在胃镜检查中判断 Hp 感染情况以及预测胃癌风险的应用价值。

结果:

纳入患者 301 例。1: 分别统计 Hp (+) 及 Hp (-) 患者年龄、性别以及饮酒吸烟史等基本资料后，两组年龄、是否饮酒及京都胃炎评分总分具有统计学差异 ($p < 0.05$)。2: 根据患者年龄资料，将患者分为 3 组，组 1: ≤ 40 岁；组 2: > 40 岁且 ≤ 55 岁；组 3: > 55 岁。比较三组中出现五种内镜表现的患者数及各组患者评分的中位数，结果显示随年龄增加，总分以及萎缩、化生、弥漫性发红、

皱襞肿大的发生率显著上升，差异均具有统计学意义 ($P<0.05$)。而鸡皮样改变更易出现在 40 岁以下患者中，差异具有统计学意义 ($p<0.05$)。3: 纳入患者中，151 名男性患者总分中位数为 1 (0,3)，150 名女性患者总分中位数为 1 (0,2)，男性患者相比于女性患者评分稍高，男性患者中更易出现萎缩、肠化、皱襞肿大；而女性患者更易出现鸡皮样改变，差异均具有统计学意义 ($p<0.05$)。4: 根据患者评分将患者分为 4 组后 (0-2 分、3-4 分、5-6 分、7-8 分)，分别计量各组中的患者数，结果显示随评分增加，Hp (+) 及 Hp (-) 患者出现显著差异；且评分大于 2 分时，Hp 感染患者占比与前组比较显著增加，差异均具有统计学意义 ($p<0.05$)。5: 统计 Hp 感染患者的五种内镜表现与未感染患者比较，差异均具有统计学意义 ($p<0.05$)。行诊断价值分析后京都胃炎评分预测 HP 感染的 AUC 及 95%CI 为 (0.823 0.776~0.870)，最佳阈值为 1.5。结果表明京都胃炎评分对于预测 Hp 感染具有良好诊断效能。6: 本研究中行活检患者共 118 例，病理结果示黏膜急慢性炎症的患者共 67 名，占比 56.8%；癌前病变患者共 38 名，占比 32.2%；癌变患者共 13 名患者，占比 11%。癌变患者 13 人中，高分化及中-高分化腺癌 11 人，中-低分化腺癌 2 人，均为 Hp (+) 患者。统计各评分组中、黏膜急慢性炎症、癌前病变、癌变的患者量及相关病理资料，各评分组中急慢性炎症、癌前病变、癌变的结果如下，0-2 分：45 (90.0)、2 (4.0)、3 (6.0)；3-4 分：21 (45.7)、19 (41.3)、6(13.0)；5-6 分：1 (5.3)、15 (78.9)、3 (15.8)；7-8 分：0 (0.0)、2 (66.7)、1 (33.3)。分别比较后存在统计学差异 ($p<0.05$)。随评分增高，各组中早癌及癌前病变检出率显著上升。且总分为 3-4 分或更高时，同组内癌

变及癌前病变的患者较前组出现显著增加。分析三组中患者基本资料、各组评分、各项内镜下表现评分后，结果显示年龄、性别、存在饮酒史、京都胃炎评分总分以及五种内镜表现均具有统计学意义（ $p<0.05$ ）。表明高龄、男性、具有饮酒史，萎缩、肠化、皱襞肿大、黏膜弥漫性发红与癌前病变及癌变显著相关。但鸡皮样改变的患者病理结果回报以黏膜急慢性炎症为主。对京都胃炎总分与胃癌检出情况行诊断价值分析后 AUC 及 95%CI 为（0.933 0.888-0.977），提示该评分方法对早期胃癌的预测有良好效能（ $p<0.001$ ）。

结论：

京都胃炎评分是一种高效、快捷、对患者整个胃内环境迅速做出全面完整的评估，对于 Hp 感染、胃癌及癌前病变的发生有良好的预测价值的方法。综合本次实验结果表明京都胃炎评分总分 ≥ 2 分的患者应予以高度重视并建议患者行进一步 Hp 检测。而对于京都胃炎评分达 3-4 分或更高时，应结合染色内镜或活检等手段精细筛查进一步明确病情，防止对癌变及癌前病变的漏诊。并且不同的内镜下表现、如鸡皮样改变、黏膜皱襞肿大等表现，也可单独提示不同的胃炎程度及可能存在的恶变风险。

关键词：

京都胃炎分类，胃癌，幽门螺杆菌，消化内镜

Abstract

Applied value of Kyoto gastritis score to determine Hp infection status and early gastric cancer risk

Objective.

Several studies have confirmed the accuracy and validity of the Kyoto Gastritis Score for predicting HP infection and gastric cancer risk. However, such studies are mainly focused on foreign countries, and there are few applications and reports in China. The aim of this experiment was to investigate the application value of the Kyoto Gastritis Score system for the assessment of Hp infection status and the prediction of gastric cancer risk.

Methods.

A total of 301 patients with endoscopic manifestations considered Hp infection and underwent ¹⁴C breath test between January 2021 and December 2021 in our endoscopy center were collected, and basic information including age, gender, Hp infection status (breath test results), smoking history and alcohol consumption history, and shared meal history were collected from all study subjects. For patients suspected of having malignant changes and requiring biopsy, pathological data were collected after biopsy. The number of patients with Hp infection in each group was analyzed and compared, and the number of patients who underwent biopsy and the pathology were statistically analyzed to study the application value of the Kyoto Gastritis Score in determining Hp infection during gastroscopy and predicting the risk of gastric cancer and other disease development.

Results.

301 patients were included.1: After the basic data of age, gender and history of alcohol and smoking in Hp(+) and Hp(-) patients were counted separately, there was a statistical difference between the two groups in terms of age, whether they consumed alcohol and total score of Kyoto gastritis ($p < 0.05$).2: According to the patients' age data, the patients were divided into three groups, group 1: ≤ 40 years old; group 2: >40 years old and ≤ 55 years old; group 3: > 55 years old. Comparison of the number of patients presenting with the five endoscopic manifestations in the three groups and the median scores of patients in each group showed that the total score as well as the incidence of atrophy, chemosis, diffuse redness, and crepitus enlargement increased significantly with age, and the differences were statistically significant ($P < 0.05$). In contrast, chicken skin-like changes were more likely to occur in patients aged 40 years, with a statistically significant difference ($p < 0.05$).3: Of the included patients, 151 male patients had a median total score of 1 (0,3) and 150 female patients had a median total score of 1 (0,2), with male patients having slightly higher scores compared to female patients, and atrophy, enterosis, and crepitus were more likely to occur in male patients; whereas female patients 4: After dividing the patients into 4 groups according to their scores (0-2, 3-4, 5-6, 7-8), the number of patients in each group was measured, and the results showed that as the scores increased, there was a significant difference between Hp(+) and Hp(-) patients; and when the scores were greater than 2, the proportion of patients with Hp infection increased significantly compared with the previous group. The differences were

statistically significant ($p < 0.05$). 5: The five endoscopic manifestations of Hp-infected patients were counted and compared with uninfected patients, and the differences were statistically significant ($p < 0.05$). The AUC and 95% CI of the Kyoto gastritis score for predicting HP infection after diagnostic value analysis were (0.823 0.776-0.870), with a sensitivity of 89.2%, specificity of 61.1%, and an optimal threshold of 1.5. The results suggest that the Kyoto gastritis score has good diagnostic efficacy for predicting Hp infection.6: A total of 118 patients underwent biopsy in this study, and the pathological findings showed mucosal A total of 67 patients (56.8%) had acute and chronic inflammation; 38 patients (32.2%) had precancerous lesions; and 13 patients (11%) had cancerous lesions. Of the 13 patients with cancerous lesions, 11 had highly differentiated and moderate-highly differentiated adenocarcinoma and 2 had moderate-lowly differentiated adenocarcinoma. All were Hp(+) patients. The amount of patients with acute and chronic inflammation, precancerous lesions, and cancerous lesions in the mucosa and related pathological data in each scoring group were counted, and the results of acute and chronic inflammation, precancerous lesions, and cancerous lesions in each scoring group were as follows: 0-2: 45 (90.0), 2 (4.0), 3 (6.0); 3-4: 21 (45.7), 19 (41.3), 6 (13.0); 5-6: 1 (5.3), 15 (78.9), 3 (15.8); 7-8 points: 0 (0.0), 2 (66.7), 1 (33.3). Statistical differences existed when compared separately ($p < 0.05$). The detection rate of early cancer and precancerous lesions increased significantly in each group with increasing scores. And with a total score of 3-4 or higher, patients with cancer and precancerous lesions within the same group appeared to be significantly increased compared to the previous group. After analyzing the basic patient data,

the scores of each group, and the scores of each endoscopic manifestation in the three groups, the results showed that age, gender, presence of a history of alcohol consumption, the total score of Kyoto gastritis score, and the five endoscopic manifestations were statistically significant ($p < 0.05$). It showed that advanced age, male, presence of history of alcohol consumption, atrophy, intestinalization, enlarged folds, and diffuse redness of the mucosa were significantly associated with precancerous and cancerous lesions. However, pathological findings in patients with chicken skin-like changes returned predominantly acute and chronic inflammation of the mucosa. The AUC and 95% CI were (0.933 0.888-0.977) after diagnostic value analysis of the total Kyoto gastritis score and gastric cancer detection, suggesting that this scoring method has good efficacy in predicting early gastric cancer ($p < 0.001$).

Conclusion:

The Kyoto gastritis score is an efficient, rapid, and rapid method for making judgments about the entire gastric environment of patients. The Kyoto gastritis score has good predictive value for the occurrence of Hp infection, gastric cancer and precancerous lesions, and the comprehensive results of this experiment suggest that patients with a total Kyoto gastritis score ≥ 2 should be given high priority and recommended to undergo further Hp testing. Similarly, for patients with Kyoto gastritis score ≥ 4 , fine screening should be combined with stained endoscopy or biopsy to further clarify the disease and prevent missed diagnosis. Moreover, different endoscopic manifestations, such as chicken skin changes and mucosal fold enlargement, may also individually suggest different degrees of gastritis and possible risk of malignancy. However, some of the manifestations may be subjectively

influenced by the examiner, and systematic training of the examiner is needed to reduce the scoring errors before performing this scoring.

Keywords:

Kyoto gastritis, gastric cancer, *Helicobacter pylori*, digestive endoscopy

中英文对照表

英文缩写	英文全称	中文全称
CAG	Chronic atrophic gastritis	慢性萎缩性胃炎
H pylori	Helicobacter pylori	幽门螺杆菌
VacA	Vacuolating cytotoxin A	空泡毒素
CagA	Cytotoxin associated gene A	细胞毒素相关基因
BQT	Bismuth-containing quadruple therapy	铋剂四连方案
IM	Intestinal metaplasia	肠上皮化生
PG I / II	pepsinogen I / II	胃蛋白酶原 I / II
CYP2C19	Cytochrome P450 2C19	CYP450 第二亚家族成员
RAC	Regular arrangement of collecting venules	集合细静脉的规则排列
N	Nodularity	鸡皮样改变
DR	Diffuse redness	弥漫性发红
-	Enlarge Fold	皱襞肿大
PPI	Proton-pump inhibitor	质子泵抑制剂
IEE	Image enhanced endoscopy	图像增强内镜

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第1章 前言

幽门螺杆菌的感染与诸多胃内疾病发生密切相关。我国是幽门螺杆菌感染大国，发现并根除幽门螺旋杆菌，防治由幽门螺杆菌感染导致的相关疾病仍是我国目前的一项重要工程。Hp 感染人体后，可导致胃黏膜经历浅表性胃炎、萎缩性胃炎、肠上皮化生、进一步至胃黏膜异型增生和 Hp 相关胃癌的发生。感染 Hp 后出现胃恶性疾病的风险由多种因素共同作用，其中患者胃酸分泌及促炎因子的多样性以及细菌基因型是重要的影响因素^[1]，Hp 感染后导致的胃黏膜萎缩及肠上皮化生的背景中，发生分化型胃癌的风险显著增加。

Hp 现症感染的镜下表现非常多样。根据不同镜下表现预测可疑 Hp 感染的患者，并对其中存在进展为胃癌风险的患者进行系统评估意义重大。不同的胃黏膜改变可提示疾病不同的进展方向。当患者发生鸡皮样改变时，发生弥漫性胃癌的风险增加^[2]。而在萎缩及肠上皮化生的胃黏膜背景中下，更容易发生分化程度高的肠型胃癌。2013 年 5 月日本消化内镜学会根据胃炎的内镜表现及其意义，以 Hp 感染的诊断、胃癌风险的评级为根据，明确客观、易观察的临床表现，提出“京都胃炎分类”。京都胃炎分类评分是根据胃黏膜萎缩、肠上皮化生、胃黏膜弥漫性发红、鸡皮样改变、皱襞肿大等 5 种常见内镜下表现来对患者胃炎程度、Hp 感染情况^[3]、发生胃癌的风险进行评估预测。张梦娇^[4]等人通过比对 902 例 Hp 感染阳性的患者内镜下表现发现，当京都胃炎评分 ≥ 2 分时，可在一定程度上提示患者可能有 HP 感染，与既往外国文献报道^[5、6]相同，表明该种评分方法

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