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胃功能三项联合 Hp 抗体对胃癌及癌前病变的鉴别诊断价值 *

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摘要 目的：探讨胃功能三项联合幽门螺杆菌(Hp)抗体对胃癌及癌前病变的鉴别诊断价值。**方法：**收集我院 2014 年 5 到 2017 年 8 月收治的胃癌患者 34 例（胃癌组）、癌前病变患者 46 例（癌前病变组），抽取研究对象空腹静脉血 5 mL，采用酶联免疫吸附法(ELISA)检测血清胃蛋白酶原 -I(PG-I)、血清胃蛋白酶原 -II(PG- II)，并计算 PG-I/ PG- II（PGR）值，采用胶体金法或胶乳免疫比浊法检测 HP 抗体，比较两组胃功能三项及 HP 抗体阳性率差异，分析胃功能三项联合 HP 抗体鉴别诊断价值。**结果：**胃癌组血清 PG-Ⅰ和 PGR 水平低于癌前病变组(P<0.05)，胃癌组与癌前病变组血清 PG-Ⅱ水平、HP 抗体阳性率比较差异无统计学意义(P>0.05)。胃癌组 HP 抗体阳性者和阴性者血清 PG-Ⅰ、PG-Ⅱ、PGR 水平比较差异均无统计学意义(P>0.05)，癌前病变组 HP 抗体阳性者血清 PG-Ⅰ水平明显低于 HP 抗体阴性者，差异具有统计学意义(P<0.05)。并联检查胃癌和癌前病变的准确度分别为 67.6%(23/34)、43.5%(20/46)，高于串联的 14.7%(5/34)、6.5%(3/46)，差异具有统计学意义(P<0.05)。**结论：**Hp 感染可能导致 PG-Ⅰ降低，具有癌前病变风险，再降低可能具有胃癌风险，临床上根据胃功能三项筛检早期胃癌并且辅助 HP 检测可早期诊断胃癌。

关键词：胃功能三项；Hp 抗体；胃癌；癌前病变；鉴别诊断

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Differential Diagnosis of Gastric Cancer and Precancerous Lesions with Three Combined Hp Antibodies with Gastric Function*

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ABSTRACT Objective: To investigate the differential diagnosis of gastric cancer and precancerous lesion by three functions of Helicobacter pylori (Hp). **Methods:** 34 cases of patients with gastric cancer (gastric cancer group), 46 cases of patients with precancerous lesion were selected in this study. The levels of pepsinogen-I (PG-I), pepsinogen- II (PG-II) were detected by enzyme-linked immunosorbent assay (ELISA). And PG-I/PG-II (PGR)value was calculated. HP antibody was detected by colloidal gold or latex immuno-turbidimetric method. Three factors and the positive rates of HP antibody were compared between the two groups. The differential diagnosis value of three gastric functions combined HP antibodies was analyzed. **Results:** The levels of PG-I and PGR of gastric cancer group were lower than those of the gastric precancerous lesion group (P<0.05). There was no significant difference between the two groups in the positive rates of HP antibody and PG-II level (P>0.05). There was no significant difference in the PG-I, PG-II and PGR levels between patients with HP antibody positive and patients with HP antibody negative in gastric cancer group (P>0.05). The level of PG-I of patients with HP antibody positive was lower than patients with HP antibody negative in gastric precancerous lesion group (P<0.05). The accuracy rate of parallel examination of gastric cancer and precancerous lesions was 67.6%、43.5% respectively, which was higher than the 14.7 % series, 6.5 % series (P<0.05). **Conclusions:** Hp infection may lead to the decrease of PG-Ⅰ, the risk of precancerous lesion, the possible risk of gastric cancer, the early screening of gastric cancer according to the three functions of gastric cancer, and the diagnosis of gastric cancer.

Key words: Gastric function three; Hp antibody; Gastric cancer; Precancerous lesions; Differential diagnosis

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前言

胃癌是一种发病率和患病率均较高的恶性肿瘤，具有明显的三间分布特征，在 50 岁以上人群中高发，男性高于女性[1]。胃

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癌前期缺乏特异性症状和体征,诊断时往往已属晚期,错过了治疗的最佳时期,因此死亡率较高[2,3]。随着医学模式改变,我国启动二级预防措施,即为早发现、早诊断、早治疗,是目前提高患者生命质量,降低病死率的最佳措施[4,5]。研究显示胃癌的发生与幽门螺杆菌(Helicobacter Pylori,Hp)感染、遗传及饮食密切相关,其中 Hp 感染率越高,胃癌的发病率越高。胃镜活检组织病理检查是诊断胃癌最为可靠的方法[6,7],但具有一定的创伤性,并且主要针对患者,而不是高危人群。因此,寻找简单、快速、经济的筛检方法对早期胃癌或者癌前病变诊断至关重要[8]。

血清胃蛋白酶原(pepsinogen,PG)是目前研究较多的胃粘膜病变的早期标志,包括 PG-Ⅰ、PG-Ⅱ[9],临床上将 PG-Ⅰ、PG-Ⅱ及 PG-Ⅰ/PG-Ⅱ(PGR)定义为胃功能三项,可以综合反映胃癌变化状态和功能变化[10]。本研究收集我院收治的胃癌和癌前病变患者,探讨了胃功能三项联合幽门螺杆菌(Hp)抗体对胃癌及癌前病变的鉴别诊断价值。

1 资料与方法

1.1 一般资料

收集我院 2014 年 5 到 2017 年 8 月收治的胃癌患者 34 例(胃癌组)、癌前病变患者 46 例(癌前病变组)的相关临床资料。胃癌组:男 26 例,女 8 例,年龄 39~88 岁,平均(66.47± 11.37)岁。癌前病变组:男 34 例,女 12 例,年龄 39~85 岁,平均(61.91± 11.49)岁。纳入标准:患者均经过临床病理确诊,并且可以收集到患者完整检查和治疗资料[11];研究均符合伦理道德,患者签署知情同意书。需排除以下标准:① 胃癌手术史;② 患有严重肾脏疾病者;③ 患有其他恶性肿瘤者;④ 患者依从性,或者拒绝参加研究者。

1.2 研究方法

1.2.1 血清胃功能三项的检测 抽取研究对象早晨空腹静脉血 5 mL,静置放置 30 min,然后 3000 rpm,离心 10 min,收集血清于 EP 管中,置于 -20℃冰箱总保存备用。采用酶联免疫吸附法 (ELISA 法) 检测 PG-Ⅰ、PG-Ⅱ水平,并计算 PG-Ⅰ/PG-Ⅱ(PGR)值,试剂均购自 Biohit Oyj 生物公司,整个研究过程中需要设置对照孔,并且绘制标准曲线,根据标准曲线计算 PG-Ⅰ、PG-Ⅱ及 PG-Ⅰ/PG-Ⅱ(PGR),实验过程均严格按照试剂盒要求步骤和注意事项进行。判断标准:PG-Ⅰ≤ 70 μg/L 或 PGR≤ 3 为阳性、PG-Ⅰ>70 μg/L 和 PGR>3 为阴性。

1.2.2 HP 抗体检测 HP 抗体检测于 2014 年 5 月~2017 年 1 月采用胶体金法,试剂由北京康美天鸿生物科技有限公司提供,2017 年 2 月~2017 年 8 月采用胶乳免疫比浊法,试剂由北京万泰德瑞诊断技术有限公司提供,这两种方法经过对比结果无明显差异,研究严格按照试剂盒要求步骤进行,判断标准:HP 抗体 >15 AU/mL 为阳性。

1.3 研究指标

比较两组 PG-Ⅰ、PG-Ⅱ及 PG-Ⅰ/PG-Ⅱ(PGR)水平及 HP 抗体阳性率;不同的 HP 抗体胃功能三项比较;胃功能三项联合 HP 抗体检测的准确度(串联和并联检测),即串联:为两种检测均为阳性是判断患者为阳性;并联:只要有一种方法检测为阳性就判断为阳性。

1.4 统计学方法

应用 SPSS 16.0 统计软件进行统计学分析,计量资料以均值± 标准差($\bar{x}$± s)表示,两组间比较采用独立样本 t 检验;计数资料用百分比(%)或者率表示,组间比较采用卡方检验(x^2)。取 P<0.05 时为差异具有统计学意义。

2 结果

2.1 各组胃功能三项水平比较及 HP 抗体检测阳性率比较

胃癌组血清 PG-Ⅰ和 PGR 水平明显低于癌前病变组,差异具有统计学意义(P<0.05),胃癌组与癌前病变组血清 PG-Ⅱ水平比较差异无统计学意义(P>0.05);胃癌组和癌前病变组 HP 抗体阳性率分别为 58.82 %、43.48 %,差异无统计学意义(P>0.05),见表 1。

表 1 各组胃功能三项水平比较及 HP 抗体检测阳性率比较($\bar{x}$± s)

Table 1 Comparison of the levels of three gastric function index and positive rate of HP antibody among different groups($\bar{x}$± s)

Groups	Cases	PG-Ⅰ(μg/L)	PG-Ⅱ(μg/L)	PGR	Positive rate of HP antibody detection
Gastric cancer group	34	130.86± 54.47#	18.02± 12.07	9.06± 5.01#	20(58.82%)
Precancerous lesion group	46	160.86± 46.65	15.42± 8.62	13.06± 7.01	20(43.48%)
P	-	0.01	0.264	0.006	0.068

Note: compared with precancerous lesion group, #P<0.05.

2.2 胃癌组与癌前病变组 HP 抗体阳性者和阴性者胃功能三项比较

胃癌组 HP 抗体阳性者和阴性者血清 PG-Ⅰ、PG-Ⅱ、PGR 水平比较差异均无统计学意义(P>0.05),癌前病变组 HP 抗体阳性者血清 PG-Ⅰ水平明显低于 HP 抗体阴性者,差异具有统计学意义(P<0.05),见表 2。

2.3 胃功能三项联合 Hp 抗体检测诊断胃癌和癌前病变的临床价值

胃功能三项联合 Hp 抗体并联检查胃癌和癌前病变的准确度分别为 67.6%(23/34)、43.5%(20/46),高于串联的 14.7%(5/34)、6.5%(3/46),差异具有统计学意义(P<0.05)。

3 讨论

随着人们生活方式、饮食模式的改变,近年来胃癌的患病率逐渐升高,且具有较高的死亡率和发病率[12,13],早期诊断或者提前预防对于降低患者死亡率以及提高患者生活质量至关重要。PG 主要来源于胃分泌,由泌酸腺的主细胞合成,在胃腔内经盐酸或已有活性的胃蛋白酶作用变成胃蛋白酶,将蛋白质分

解成膘、胨及少量多肽[16,17]。PG-I 是检测胃泌酸腺细胞功能的指标，胃酸分泌过多会引起 PG-I 升高，胃黏膜腺体萎缩或者胃酸分泌减少会引起 PG-I 降低[18]，PG-II 相对于胃窦粘膜则与胃底粘膜病变的相关性比较大，假幽门腺化生、胃上皮化生、假幽门腺异型增值、胃底腺管萎缩等与 PG-II 水平的升高有密切关系[19]。PG 检测血清胃蛋白酶原水平的变化可以反映出胃黏膜的功能和形态，PG-I 和 PG-II 的联合测定可起到非常重要的作用[20]。研究表明血清 PG 水平检查可以作为临床早期筛检胃癌的灵敏指标[14,15]。

表 2 胃癌组与癌前病变组 HP 抗体阳性者和阴性者胃功能三项比较($\bar{x}\pm s$)

Table 2 Comparison of the three gastric function index between patients with positive and negative HP antibody in gastric cancer group and precancerous lesion group($\bar{x}\pm s$)

Groups	HP antibody	PG-Ⅰ(μg/L)	PG-Ⅱ(μg/L)	PGR
Gastric cancer group	Positive (20 cases)	122.08± 50.25	20.53± 14.59	8.32± 6.11
	Negative (14 cases)	143.39± 59.61	14.44± 5.93	10.12± 2.66
Precancerous lesion group	Positive (20 cases)	141.61± 48.54#	16.68± 10.22	11.44± 7.22
	Negative (14 cases)	175.67± 40.03	14.45± 7.23	14.31± 6.72

Note: compared with the same group of negative patients, #P<0.05.

表 3 胃功能三项联合 Hp 抗体检测诊断胃癌和癌前病变的临床价值

Table 3 Clinical value of three gastric function index combined with Hp antibody in the diagnosis of gastric cancer and precancerous lesion

Combination mode	Screening	Gastric cancer group	Precancerous lesions group	Total
Series	Positive	5	3	8
	Negative	29	43	72
Parallel	Positive	23	20	43
	Negative	11	26	37
Total		34	46	80

HP 抗体反应板上的血清中的幽门螺杆菌抗体与固相胃幽门螺杆菌混合抗原形成复合物，再与 IgG 抗体结合[21,22]。研究显示 Hp-Ab 阳性见于胃、十二指肠幽门螺杆菌感染，如胃炎、胃溃疡和十二指肠溃疡等，其敏感性大于 90%，特异性为 85%[23,24]。本研究通过收集我院胃癌患者 34 例、癌前病变患者 46 例进行 PG 联合 HP 抗体检测，结果显示胃癌组血清 PG-Ⅰ和 PGR 水平低于癌前病变组，血清 PG-Ⅰ和 PGR 水平的降低可能由 Hp 感染引起，二者水平的异常预示着癌前病变风险的增大，而根据以上结果，说明临床中需要关注血清 PG-Ⅰ和 PGR 水平异常程度，再降低可能导致患癌风险增大。此外，胃癌组和癌前病变组 HP 抗体阳性率分别为 58.82 %、43.48 %，胃癌组 PG-Ⅰ阴性和阳性比较无明显差异，癌前病变组阳性 PG-Ⅰ水平低于阴性，两种检测指标联合方式评价显示，并联检查胃癌和癌前病变的准确度分别为 67.6 %、43.5 %，高于串联的 14.7 %、6.5 %(P<0.05)，说明并联检查胃癌和癌前病变对临床中提高诊断准确率具有重要作用。Tu 等[31]的研究显示，胃功能三项检查可作为慢性胃病变胃镜前筛查方式，本研究发现胃功能三项联合 Hp 抗体可用于鉴别诊断胃癌和癌前病变，与 Wang 等[32]的研究结果一致，可提高临床诊断的准确度，为早期诊断提供参考。

综上所述，Hp 感染可能导致 PG-Ⅰ降低，具有癌前病变风险，再降低可能具有胃癌风险，临床上根据胃功能三项筛检早期胃癌并且辅助 HP 检测可有助于早期诊断胃癌，作为临床诊断的参考依据。

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