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结肠息肉癌变过程中内镜微血管特征与MVD IGF- 1 STAT3表达相关性研究*

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Correlation of microvascular characteristics under narrow band imaging with MVD, IGF-1, and STAT3 expression during cancerization of colorectal polyp

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摘要

目的：分析MVD、IGF-1、STAT3 等血管生成因子在结肠癌及癌前病变组织中的表达与窄带成像内镜（NBI）下的微血管形态的相关性，探究内镜实时观测血管生成的可行性。方法：将普通白光内镜以及NBI 内镜均诊断为结肠息肉样病变并经病理组织学证实的结肠早期癌、结肠腺瘤纳入研究，将微血管形态分为三型：Ⅰ型：无微血管形态可见；Ⅱ型：微血管沿腺管开口排列，粗细均匀；Ⅲ型：微血管粗细不均，排列紊乱。同时将病变组织进行CD34、IGF-1、STAT3 免疫组织化学染色，比较NBI 微血管形态特征和组织学结果的相关性。结果：共有58例患者的64个部位（结肠早期癌15个，腺瘤29个，正常黏膜20个）进行NBI 内镜检查，NBI Ⅱ型部位以腺瘤为主，占82.1%（23/ 28），而早癌多表现为Ⅲ型，占66.7%（10/ 15）。 免疫组织化学提示微血管密度（MVD-CD 34）、IGF-1 在正常黏膜、结肠腺瘤和结肠早癌中的表达有显著性差异（P < 0.000 1，P = 0.006 2），STAT3 在三者间表达有逐渐增高的趋势（P = 0.071 3）。 在NBI 微血管形态分型Ⅰ、Ⅱ、Ⅲ型组织中MVD-CD 34、IGF-1、STAT3 的表达均有显著性差异（P <0.000 1，P = 0.001 0，P = 0.005 5）。 NBI 的微血管类型和MVD、IGF-1、STAT3 表达的相关系数分别为0.67、0.41和0.40。结论：根据NBI 内镜实时微血管形态评估组织血管生成，是一项非常有前景的结肠息肉癌变检测方法。

关键词 ： 窄带成像内镜，结肠腺瘤，结肠早期癌，微血管形态，肿瘤血管生成

Abstract :

Objective:To investigate the correlation between the expression of angiogenic factors (MVD, IGF-1, and STAT 3) in colorectal carcinoma and adenoma and the microvascular characteristics under narrow band imaging (NBI), in order to evaluate the fea -sibility of NBI in real- time observation of angiogenesis. Methods:Patients with pathologically confirmed colorectal polyps were re-cruited and examined by NBI. Vascular patterns were classified into type Ⅰ (invisible or faintly visible), type Ⅱ(clearly visible and regularly arranged in a round, oval honeycomb-like pattern), and type Ⅲ(clearly visible and irregularly arranged in terms of size and caliber or irregularly winded). Immunohistochemical staining was performed to determine the expression of CD34, IGF- 1, and STAT 3. Histological results were compared with the vascular patterns under NBI. Results:The NBI endoscopy results of64sites (15adenocar -cinomas, 29adenomas, and 20normal tissues) from 58patients were introduced and examined in this study. Adenomas ranked the first (82.1%,23/28) among the vascular pattern Ⅱcases, whereas early adenocarcinomas dominated the vascular pattern Ⅲcases (66.7%, 10/15). The expression levels of MVD-CD34and IGF- 1 in normal mucosa, adenomas, and adenocarcinomas were significantly differ-ent (P<0.0001and P=0.0062, respectively). All the expression levels of MVD-CD 34, IGF- 1, and STAT 3 in sites displaying vascular pat -terns Ⅰ, Ⅱ, and Ⅲwere significantly different (P<0.0001, P=0.0010, and P=0.0055, respectively). Spearman correlation coefficients between the NBI vascular patterns and the MVD-CD 34, IGF- 1, and STAT 3 expression levels were 0.67, 0.41, and 0.40, respectively. Conclusion:Vascular pattern analysis through an NBI system can be a promising tool to evaluate angiogenesis of colorectal lesions in real-time endoscopic observation.

Key words : narrow band imaging colorectal adenoma early colorectal carcinoma microvascular pattern tumor angiogenesis

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