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·综述·

克罗恩病诊断技术研究进展

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[摘 要] 克罗恩病是一种病因尚不十分清楚的慢性非特异性肠道炎症性肠病。由于生活环境、饮食、作息时间等方面的变化,近20年来我国克罗恩病患者数量急剧增加,越来越多的关于克罗恩病的病因、临床表征、诊疗技术、药物治疗等方面的研究丰富了人们对于克罗恩病的认识,也推动了克罗恩病的诊疗技术的更新换代。本文整理了国内外近年来克罗恩病的诊断技术的研究进展,供医疗和相关科研人员参考。

[关键词] 克罗恩病;诊断技术;慢性非特异性肠道炎症性疾病;治疗
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Research progress in diagnosis of Crohn's disease

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Abstract: Crohn's disease is a chronic idiopathic inflammatory bowel disease of unknown etiology. In our country, the number of Crohn's disease has increased dramatically in the past 20 years due to changes in living conditions, diet, schedule and so on. This has attracted the attention of medical workers and medical researchers. In recent years, more and more studies have been made on the etiology, clinical characterization, diagnosis and treatment techniques, and drug therapy of Crohn's disease. These findings enrich the understanding of Crohn's disease and promote the updating of the diagnosis and treatment of Crohn's disease. In this paper, the research progress in the diagnosis of Crohn's disease at home and abroad in recent years has been sorted out for reference by medical and related researchers.

Keywords: Crohn's disease; diagnosis; therapy

克罗恩病(Crohn's disease,CD)是一种慢性非特异性肠道炎症性疾病(inflammatory bowel disease,IBD),对于该病的病因目前学界尚无统一的认识。伴随着国人生活环境、饮食习惯、作息等诸多方面的改变,我国近20年来克罗恩病的发病率陡然增加[1],甚至被列入克罗恩病发病率持续增长的国家行列[2]。

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根据统计资料,我国克罗恩病的高发年龄段为18~35岁,且男性多于女性(3:2)[3]。从病变部位来看,该病多见于回肠末端和其邻近的结肠,但消化道各处均可受累,呈现出跳跃式分布。该病临床表现比较多样化,如消化道症状有腹痛、便血,全身性症状有食欲不振、体质量减轻、发热、贫血等[4],青少年患者甚至会出现生长发育迟缓的现象;而腹痛、腹泻、腹腔脓肿、瘘管、肠狭窄和梗阻等是常见的并发症[5]。临床上可以用克罗恩病活动指数(activity index,CDAI)来评估该病的严重程度或者疗效评价,不过该评价指数过于依赖临床表现,所以也存在不足之处。

克罗恩病患者饱受腹痛、便血的困扰,且易复发,需要多次手术治疗[6]。实现快速精准诊断,并找到最为合适的干预手段,进而快速有效地缓解临床症状,缩短疾病过程,提高患者生活质量,是诊治该病努力的方向。近年来也新出现或者完善了一些CD检测手法,大大提高了CD诊断速度和准确性。为方便医疗和相关科研人员更直观快速地了解克罗恩病诊断技术的研究进展。本文就该病的诊断技术研究成果作一个归纳和整理,供相关科研人员参考。

1 磁共振成像(MRI)检测技术

磁共振成像(magnetic resonance imaging,MRI)和CT小肠造影(CT enterography,CTE)技术对于CD的诊断具有举足轻重的作用,可以评估CD的发病范围、严重程度以及并发症等[7-8],已经成为了CD评估的金标准[9-10]。MRI技术能够清晰地显示肠壁及肠腔异常改变,所以很多医学工作者都相信MRI可以用来评估克罗恩病活动情况[11-12]。MRI技术具有许多优点,如良好的软组织对比度、多平面重建等,更重要的是该技术不会给人体造成辐射损伤[13]。

较高场强的MRI技术更具优越性,比如3.0 T MRI是目前最新的影像诊断技术。作为高场强的MRI,3.0 T具有更好的信噪比和空间分辨率,能够更好地显示克罗恩病患者受累肠段的细微病变结构,包括肠壁厚度改变、肠壁异常强化、肠段狭窄、肠系膜血管异常增多("木梳征")、肿大淋巴结、瘘管、溃疡和脓肿等。朱震亚等[14]的研究成果显示,3.0 T MRI评估活动性克罗恩病敏感度(68.0%)要明显高于1.0 T MRI(47.4%),特异度(90.9%)略低于1.0 T MRI(100%)。MRI在测量肠壁的厚度、显示肠壁的强化以及显示"木梳征"方面,相对于CT能更好地显示软组织对比度,而且没有射线所造成的损害,因此MRI在评估克罗恩病的活动性方面越来越显示出优越性[13]。

2 CT小肠造影(CTE)检测技术

CT小肠造影是结合了多层螺旋CT(multi-slice CT,MSCT)和钡剂小肠造影优点的小肠检查方法,是一种新型消化系统影像学检查技术。该技术可以明确肠壁是否增厚以及病变对肠腔外结构是否有侵犯,这些信息对CD的诊断具有较强的特异性,通常肠壁的增厚以及溃疡的增多提示患者病情严重[15-18]。而且CTE检查方法具有简便、无毒、也较少引起患者呕吐等特点。另外,CTE较传统小肠造影检查还有个非常明显的优点,即可以判断CD病变活动情况。有文献报道,CD患者肠黏膜强化及肠壁厚度与病变的活动度高度关联[19-20]。活动期增强CT可见肠壁增厚并呈分层状表现,黏膜层明显强化。随着病变迁延,黏膜层无强化,肠壁呈分层强化或均匀强化,提示病变处于静止期。

CTE的优势还在于可清楚显示CD的并发症,尤其是结合冠状面重组图像对于肠周病变的显示更加直观。Wold等[20]的研究指出,当考虑CD患者出现并发症时,CTE应成为首选的影像学检查方法。但是,CT成像的最大缺点是X射线的高辐射性。接受CT检查的克罗恩病患者必须接受大剂量的X射线照射,而X射线的照射加上克罗恩病患者服用的某些药物,如甲氨蝶啶的协同作用,将增加这些患者罹患恶性肿瘤的可能性[21]。

3 双气囊推进式电子小肠镜检测技术

克罗恩病内镜下严重指数(CD endoscopic index of severity,CDEIS)可以评估CD病情,该体系将结肠镜所能检查的肠道分成五部分:直肠、乙状结肠、左半结肠、横结肠、右半结肠和回肠。内镜检查时重点描述的九大病变包括假息肉、溃疡愈合、明显红斑、明显的黏膜肿胀、阿弗他溃疡、浅溃疡、深溃疡、溃疡性狭窄及非溃疡性狭窄[22-23]。目前临床诊断和评估该疾病的方法主要包括小肠镜、胃肠镜以及胶囊内镜,而回肠末端和结直肠是镜检的首选位置,若镜检结果显示有溃疡性结肠炎或者多节性病变,则提示有CD的可能[24]。虽然这些检测方法可以较为直观评估克罗恩病情况,还能够实施病变部位组织学检查,而且这些技术手段对医疗设备要求较低,但是这些技术检查范围受到限制,如当病变发生于小肠时,临床诊断有时会很困难,有时甚至出现胶囊滞留。双气囊推进式电子小肠镜的问世与应用极大地拓展了电子内镜在消化道的检查范围,使得众多深部小肠的病变在内镜图像上得以清晰地显示。经口和经肛进镜方式相结合可以完成全消化

道的完全、彻底、无盲区的检查[25-26]。

对于典型的小肠克罗恩病,双气囊小肠镜可以清晰地观察到特征性的、跳跃式分布的纵行深裂状的溃疡,底部有白苔,溃疡的周边有不同程度的肉芽组织增生和充血水肿,以及瘢痕性狭窄[27]。在其他小肠多发性炎症或溃疡性病变者中,双气囊小肠镜同样可以对病灶作全面细致的观察,必要时可通过取病理活检作相应鉴别。虽然小肠克罗恩病在病理学上有特征性的非干酪样坏死改变者仅占30%,但内镜下多节段、跳跃式和纵行深溃疡的特征,是临床诊断确立的重要依据。双气囊推进式电子小肠镜对于克罗恩病的诊断率与准确率较胶囊内镜与小肠钡灌都要高,而且不良反应也较少,包括麻醉意外、肠道穿孔、消化道出血、肠系膜撕裂、急性胰腺炎和继发感染等[28]。

4 超声检测技术

超声检查具有无创、安全、价格低廉等优点,是一种有效的检测克罗恩病的影像学检测方法。越来越多的文献表明[29-30],灰阶超声能清楚显示克罗恩病患者病变段肠壁全层增厚,尤其以内侧肠壁增厚明显;黏膜肌层回声减低增厚;黏膜下层回声增高增厚;外侧肠壁增厚不明显。而多普勒超声则能看到克罗恩病患者病变段肠壁。能量多普勒 Limberg 0 型:正常肠壁;Limberg Ⅰ型:肠壁增厚;Limberg Ⅱ型:肠壁增厚并有较短的血管出现;Limberg Ⅲ型:肠壁增厚并出现较长的血管;Limberg Ⅳ型:肠壁增厚且出现能与肠系膜相连的长血管。另外,超声造影动脉期主要表现为两种增强模式:模式1为同时开始的全肠壁增强;模式2为从内侧肠壁开始的以内侧肠壁为主的增强。静脉期及延迟期造影剂缓慢消退。

除了上述检测手段以外,CD 的检测手段还有其他的技术,比如生化方法检测肠道炎症的有效标志物 C-反应蛋白的水平,以及排泄物中检测 CD 的有效标志物和疗效评估的标志物钙卫蛋白的水平[31-32]。合理应用诊断方法,快速、准确以及无害的检测手段迅速诊断克罗恩病,并及时对症下药可以缓解患者心理和身体上的伤害,这对于漫长而难以治愈的克罗恩病患者来说是十分有意义的。

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