

急性肠系膜血管梗塞的CT平扫表现

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【摘要】 目的 分析多例急性肠系膜上动静脉血管梗塞病例的螺旋CT平扫影像改变,提高对本病影像表现的认识。方法 收集12例手术或造影证实的肠系膜动脉或静脉梗塞的急诊病例,年龄36~64岁,其中肠系膜上动脉梗塞7例,肠系膜上静脉梗塞5例,均做螺旋CT平扫。结果 肠系膜上动脉梗塞:7例有不同程度梗阻近段增粗远侧段变细;5例增粗血管腔内密度增高;2例局部肠管扩张呈纸样变薄;1例有少量腹水;2例肠系膜局部密度增高;6例见增粗侧枝循环血管。肠系膜上静脉梗塞:5例均见绳索征及增粗静脉密度不同程度增高。均有局部肠管壁不同程度增厚,3例呈双环征。1例肠壁出现积气。5例局部肠系膜密度增高。2例有少量游离腹水。结论 急性肠系膜上动静脉栓塞CT平扫有较特征的表现,正确认识这些征象可以让患者得到及时诊治,提高患者的生存率。

【关键词】 肠缺血;肠系膜动静脉;X线计算机体层成像。

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CT manifestations of acute mesenteric infarction. LAI Hai-ping. Department of Radiology, the Central Hospital of Kaiping City, Kaiping 529300, Guangdong, CHINA

【Abstract】 Objective To analyze the spiral CT manifestations of patients with acute mesenteric infarction (AMI), and to improve the awareness of imaging manifestations of the disease. **Methods** Twelve patients with AMI confirmed by surgery or angiography, aged from 36 to 64 year old, underwent CT scan of the abdomen and pelvis, including 7 patients of superior mesenteric artery occlusion and 5 patients of superior mesenteric venous infarction. **Results** CT findings for detection of superior mesenteric artery occlusion: 7 patients showed different degrees of obstruction with proximal wall thickening and distal wall thinning of artery; 5 patients showed higher density in their thickening sectional area of vessel lumen; 2 patients showed local intestinal dilatation with pattern thinning bowel wall; 1 patient had a small amount of ascites; 2 patients revealed higher density in their mesentery; 6 cases showed thickening collateral circulation in blood vessels. CT findings for detection of superior mesenteric venous infarction: 5 patients displayed "cord sign" and varying degrees of higher density in their thickening sectional area of vessel lumen, as well as different degrees of thickening of their vessel wall; 3 patients showed "double-ring sign"; 1 patient had pneumatosis of bowel wall; 5 patients revealed higher density in their mesentery; 2 patients had small amounts of ascites. **Conclusion** AMI has some characteristic CT performances. Correct understanding of these signs allows patients to receive timely diagnosis and treatment to improve the survival rate.

【Key words】 Intestinal ischemia; Mesenteric vessels; X-ray computed tomography

急性肠梗塞所致的急腹症约占全部急腹症的1%,其年死亡率甚至较结肠癌的死亡率更高,是严重的腹部疾病。腹痛12h内不能确诊的死亡率明显增加。患者急诊而来,多只做腹部CT平扫,因此需认识其CT平扫特征,以及时做出提示,让患者得到及时诊治。

1 资料与方法

1.1 临床资料 收集2003-2011年间12例经增强扫描或造影证实的肠缺血的急诊病例。女性4例,男性8例。年龄36~64岁,平均54岁。其中肠系膜上动脉梗塞7例,肠系膜上静脉梗塞5例。患者均有不

同程度腹痛、腹胀,5例有便血,3例有停止排气排便,2例有恶心呕吐。

1.2 方法 采用GE公司Lightspeedg螺旋CT扫描机,120kV,250mA,512×512,层厚7.5cm,层距7.5cm,行自肝顶至耻骨联合上缘水平螺旋CT平扫。

2 结果

2.1 肠系膜上动脉梗塞CT表现 肠系膜上动脉梗塞有7例。梗阻近段动脉有不同程度增宽,梗塞远侧动脉明显变细,5例增粗肠系膜上动脉密度增高,最高CT值75Hu左右(图1A、图1B)。2例局部肠

管扩张积液较明显,2例肠管呈纸样变薄。其余病例均有肠气增多及小液气平面等肠淤积表现。1例可见少量游离腹水。2例肠系膜局部水肿密度增高。6例可见增粗侧枝循环血管。

2.2 肠系膜上静脉梗塞CT表现 肠系膜上静脉梗塞5例。5例局部肠系膜静脉不同程度增粗,呈

绳索样,增粗静脉密度不同程度增高,最高可达72 Hu (图1C、图1D)。均有局部肠管壁不同程度增厚,3例肠管增厚明显呈双环征,增厚肠管密度降低或升高。增粗肠管内或增粗肠管近侧肠管可见积液。1例肠壁出现积气(图1E)。5例局部肠系膜水肿,密度增高,呈云絮状。2例有少量游离腹水。

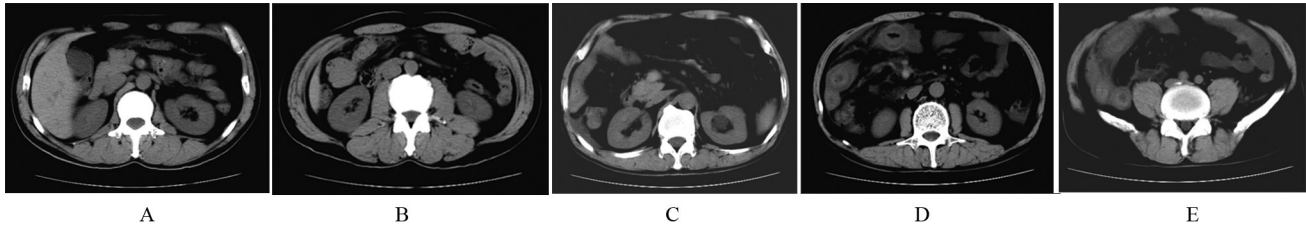


图1 CT表现

注:A、B:肠系膜上动脉近端明显增粗,并见增粗侧枝循环形成。增粗肠系膜上动脉及侧枝循环血管内CT值明显增高,60~70 Hu,高于腹主动脉。C、D:右中腹肠管肠壁明显增厚,呈双环征,附近肠系膜静脉密度增高,稍增粗,增粗血管腔内CT值72 Hu左右,高于腹主动脉。肠管附近肠系膜水肿密度增高。有少量腹水。E:右侧增粗的肠管壁有少许积气,手术发现小肠缺血坏死,附近血管血栓形成。

3 讨论

随生活水平提高及人口老年化,肠缺血在急腹症中发生比例有所增加,CT扫描是诊断肠缺血的主要手段,随CT扫描机技术发展,多层螺旋CT增强扫描对肠系膜血管梗塞诊断的符合率达82%以上,但基层医院急诊时多为平扫,需正确认识肠缺血的CT平扫表现。

肠系膜上动脉血栓形成多发生在动脉的第一段,栓塞多发生在第二、三段,本组病例均为第二或第三段梗塞,但未能追踪到是血栓形成还是脱落栓子栓塞。7例见梗塞血管改变直接征象:梗阻动脉近段增粗远侧段突然变细。血管增粗程度与血管柔软性相关,年轻患者增粗较明显,本组一例45岁患者肠系膜上动脉第二段梗塞,梗塞近端增粗达腹主动脉直径1/2左右;本组5例梗阻血管近段管腔内密度增高,最高CT值达75 Hu左右,越靠近梗阻处越明显,增粗侧枝循环也可见密度增高,可能与梗阻后压力增高、血流变慢、浓度增高或有凝血血栓形成相关。动脉梗塞后供血减少,缺血肠壁麻痹张力减低,蠕动减弱或消失,同时肠壁渗出增加及近段肠管内容物进入,使肠腔压力升高致肠管不同程度的淤积或扩张,所见病例均有小肠局部不同程度淤积。肠管缺血及肠管扩张可使肠管壁呈纸样薄,肠管出现纸样薄变预后较差,提示肠壁穿壁性梗死可能,本组两例纸样薄肠壁增强扫描无强化,手术见相应肠管已坏死。

肠系膜上静脉梗塞有原发性和继发性。CT扫描静脉管腔增宽及腔内高密度影为提示诊断的直接征象。间接征象有:肠管扩张积液、肠壁增厚、绳索征、肠系膜积液、肠壁或静脉积气、腹腔积液、肠管密度改变^[1]。肠系膜上静脉局部血栓形成后,其远侧端静脉

回流受阻,其内血液流动变慢、停止,形成高密度凝血血栓,于是CT平扫见扇状增粗静脉呈绳索征,边缘模糊,静脉管腔内密度增高,本组5例梗阻静脉管腔密度均有增高,最高达72 Hu,明显高于腹主动脉。64层螺旋CT能很好显示肠系膜三级以上分支^[2],当更小静脉梗塞血管征象不明显时,循环障碍引起的肠壁水肿和肠系膜水肿等间接征象可为诊断提供依据。肠系膜静脉血栓形成后,静脉回流受阻导致肠管及肠系膜瘀血水肿,表现为肠管壁增厚,肠系膜云絮样密度增高呈。肠管管壁瘀血增厚水肿,水肿时管壁密度降低,浆膜层与黏膜层呈明显同心圆样改变或靶征。肠壁瘀血及肠管梗死后血液由瘀血的毛细血管内漏出,使相应肠管增厚密度增高形成出血性梗死。肠管改变可帮助判断肠缺血时间病程变化,肠壁增厚、系膜水肿、腹水,肠壁强化高于正常为早期CT表现^[3],当肠管壁及静脉有积气时肠已经缺血坏死,本组一例肠壁出现少许小气泡,手术证实肠管已坏死,肠壁及静脉积气为肠梗阻特异征象,但出现此征象预后很差。

虽较多病例在平扫就可以较明确提示诊断,但肠系膜上静脉增宽及腔内高密度、增强扫描腔内充盈缺损仍是明确诊断的金标准^[4],多层螺旋CTA及三维重建技术不但可以显示血栓范围、位置,还可以了解肠系膜及肠管病变情况,进而评价SMVT的严重程度,指导临床治疗方案的制定^[5]。

螺旋CT平扫对肠系膜动静脉梗塞可有较典型特征表现,除肠系膜动静脉增粗、梗阻动脉远侧段变细及增粗动静脉腔内密度增高等直接征象及肠壁、血管积气特异征象外,当仅出现肠壁增厚和肠系膜水肿等间接征象或者不明原因局部肠淤积时也应尽快进一步检查,以明确诊断,使患者得到及时治疗。

腰椎间盘突出症 CT 影像定位与症状体征的关联性分析

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【摘要】 目的 探讨腰椎间盘突出症 CT 影像区域定位与症状体征的关联性。方法 共选取 258 例腰椎间盘突出症患者, 其中轻度 120 例, 中度 98 例, 重度 40 例, 分别测量并计算出矢状径指数(SI)、测量黄韧带前间隙、侧隐窝上口宽度、硬膜囊前后径, 观察腰椎间盘突出症分级与各项指标的关系, 同时, 根据 CT 检查将患者腰椎间盘突出性质、类型及部位进行分类, 分析患者分级与腰椎间盘突出因素的关系。结果 腰椎间盘突出症患者体征症状越严重, 矢状径越大及硬膜囊前后径越小, 即患者体征严重程度与矢状径及硬膜囊前后径有明显相关性 ($P < 0.05$)。轻度与重度组间比较, 黄韧带间隙及侧隐窝宽度有显著差异, 但轻度与中度及中度与重度组间比较差异无统计学意义, 即腰椎间盘突出症患者体征症状严重程度与黄韧带间隙及侧隐窝宽度有一定关系, 但不具有明显相关性。患者的临床症状体征严重程度与腰椎间盘突出性质和类型有明显相关性 ($P < 0.05$), 与突出部位无明显相关性 ($P > 0.05$)。结论 腰椎间盘突出症患者临床症状体征可由多种原因引起, 其严重程度与 CT 影像学表现有一定的关系, 但并不完全相关, 应结合患者症状体征及各种检查结果进行综合考虑, 正确评估患者病情。

【关键词】 椎间盘突出; 症状; 体征; 影像学

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Correlation analysis on CT manifestations of lumbar disc herniation and symptoms and signs. ZHANG Xiao-shuang. Department of Radiology, the First Affiliated Hospital of Guangxi Medical University, Nanning 530021, Guangxi, CHINA

【Abstract】 Objective To investigate the correlation between CT manifestations of lumbar disc herniation and symptoms and signs. **Methods** A total of 258 patients of lumbar disc herniation were enrolled in the study, including 120 patients of mild, 98 patients of moderate and 40 patients of severe. The sagittal index (SI), the space anterior to the ligamentum flavum, width of the superior outlet, the diameter of dural sac were measured and calculated. The correlation between the grade of lumbar disc herniation and the indexes were observed. According to the CT performances, the nature, type and site of lumbar disc herniation, were classified, and the relationship between with the grade and the factors of lumbar disc herniation. **Results** Worse the signs and symptoms were, larger the sagittal diameter was and smaller the diameter of dural sac was, which indicated that there were a significant correlation between the symptoms severity, the sagittal diameter and the dural sac diameter ($P < 0.05$). The space anterior to the ligamentum flavum and the width of the superior outlet showed statistically significant difference between the mild group and the severe group, with no statistically significant difference between the mild group and the moderate group, as well as the moderate group and the severe group, which indicated that there was a certain correlation between the symptom severity and the space anterior to the ligamentum flavum and the width of the superior outlet, but not obvious. Symptom severity also showed a significant correlation with the nature and type of lumbar disc herniation ($P < 0.05$), with no significant correlation with the site ($P > 0.05$). **Conclusion** The clinical symptoms and signs of lumbar disc herniation can be caused by a variety of reasons. The symptom severity and imaging findings have a certain relationship, but not complete. We should combine the symptoms and signs with the examination results to assess the disease status of the patients correctly.

【Key words】 Lumbar disc herniation; Symptom; Sign; Imaging

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