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比较钆布醇与钆喷酸葡胺增强MRI检出脑转移瘤能力

Gadobutrol- and gadopentetate dimeglumine-enhanced MR scanning in detection of cerebral metastases: A compared study

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中文关键词: [钆布醇](#) [钆喷替酸葡甲胺](#) [脑转移瘤](#) [磁共振成像](#)

英文关键词: [Gadobutrol](#) [Gadopentetate dimeglumine](#) [Cerebral metastases](#) [Magnetic resonance imaging](#)

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中文摘要:

目的 比较钆布醇与Gd-DTPA增强MRI检出脑转移瘤的能力。方法 对10例MR增强扫描疑似脑转移瘤患者,采用两阶段交叉设计随机分配对比剂注射顺序,行钆布醇(0.1 ml/kg体重)和Gd-DTPA(0.2 ml/kg体重)MR增强扫描,比较不同对比剂MR增强扫描检出转移瘤的能力,并比较二者转移瘤SNR、CNR及对比强化值(CE)的差异。结果 钆布醇增强MRI检出转移瘤75个,Gd-DTPA增强MRI检出转移瘤72个,显示转移瘤质量评分分别为(3.40±0.72)和(3.24±0.70)分,差异均无统计学意义($P>0.05$);注射对比剂后延迟3 min、7 min及10 min,钆布醇增强MRI中转移瘤SNR、CNR和CE均高于Gd-DTPA增强MRI($P<0.05$),各延迟时间点间SNR、CNR和CE差异均无统计学意义($P>0.05$)。结论 与Gd-DTPA增强MRI比较,钆布醇增强MRI显示脑转移瘤更加清晰,能检出更多微转移灶。

英文摘要:

Objective To compare the ability of gadobutrol- and Gd-DTPA-enhanced MR scanning in detecting brain metastases. **Methods** Ten patients with suspected brain metastases underwent gadobutrol enhanced (0.1 ml/kg) and Gd-DTPA-enhanced (0.2 ml/kg) MR scanning with randomized injection order of contrast agent according to two-period crossover design. The ability of the two contrast agents in detecting brain metastases were compared. SNR, CNR and contrast enhancement (CE) of the lesions in enhanced MRI at different delayed time points were compared. **Results** A total of 75 lesions were detected with gadobutrol-enhanced MR scanning, while 72 lesions were detected with Gd-DTPA-enhanced MR scanning. The display quality score of metastases was (3.40±0.72) in gadobutrol-enhanced MR scanning and (3.24±0.70) in Gd-DTPA-enhanced MR scanning ($P>0.05$). SNR, CNR and CE of the lesions at each time point after injection of contrast agent were all higher in gadobutrol-enhanced MRI than those in Gd-DTPA-enhanced MRI (all $P<0.05$). There was no significant difference of SNR, CNR nor CE among different delayed time points (all $P>0.05$). **Conclusion** Compared with Gd-DTPA-enhanced MR scanning, gadobutrol-enhanced MR scanning displays cerebral metastases more clearly, and can detect more micro cerebral metastases.

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