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MRI随访观察膝关节基质诱导的自体软骨细胞移植术后2年

Two-year MRI following up after matrix-induced autologous chondrocyte implantation of the knee

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英文关键词: [Knee joint](#) [Cartilage injury](#) [Matrix-induced autologous chondrocyte implantation](#) [Magnetic resonance imaging](#)

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中文摘要:

目的 探讨MR对膝关节软骨损伤修复的诊断价值。方法 15例膝关节软骨损伤患者(20膝)接受自体软骨细胞移植术(MACI),术后3、6、12和24个月行MR动态随访检查,术后15和24个月患者进行关节镜和组织学检查。采用单因素方差分析比较9项观察指标(软骨缺损的填充和修复程度、与周边软骨的整合程度、修复组织的表面情况、修复组织的结构是否均匀、修复组织的信号强度、软骨下薄层致密骨是否完整、软骨下骨是否完整、有无粘连及有无滑膜炎)。结果 软骨缺损的填充和修复、与周边软骨的整合、修复组织的表面、修复组织的结构、修复组织的信号强度、软骨下薄层致密骨是不完整、软骨下骨是不完整及有无滑膜炎在MACI术后3、6、12和24个月的差异有统计学意义($P < 0.05$),有无粘连的差异无统计学意义($P > 0.05$)。后15和24个月组织学检查显示新形成的组织是透明软骨和纤维软骨的混合物,以透明软骨为主。结论 MACI术后采用膝关节软骨序列进行MR追踪随访是评估膝关节软骨修复的最佳方法。

英文摘要:

Objective To evaluate the efficacy of matrix-induced autologous chondrocyte implantation (MACI) on patients with cartilage injury in knee by MRI. **Methods** MR scan following-up was performed 3, 6, 12 and 24 months postoperation in 15 patients (20 knees) with knee cartilage injury. Arthroscopic biopsy and histological examination were performed after the implantation in 2 patients 15 and 24 months after MACI, respectively. One-way ANOVA was used to compare 9 observation targets (the degree of defect repair and filling of the defect, integration to border zone, surface of the repair tissue whether structure of the repair tissue homogeneous or not, signal intensity of the repair tissue, whether subchondral lamina intact, subchondral bone intact, adhesions, synovitis or not). **Results** Statistical differences were found in the degrees of defect repair, filling of the defect, integration to border zone, surface of the repair tissue, structure of the repair tissue, signal intensity of the repair tissue, subchondral lamina, subchondral bone and synovitis (all $P < 0.05$). There was no statistical difference of adhesions ($P > 0.05$). Fifteen and 24 months after MACI, histological examination exhibited the predominance of hyaline-like regeneration within the mixture of hyaline cartilage and fibro cartilage. **Conclusion** Optimal knee cartilage imaging is necessary for MRI following-up evaluation of repair cartilage after MACI.

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