

利用磁振造影檢查評估膝部半月軟骨板破裂的大小與半月軟骨板旁囊泡的關係 DP017-MS
Parameniscal Cyst Formation in the Knee is Associated with Meniscal Tear Size:
A MRI study

許一智¹ 吳佳駿² 邱盈峻³ 張玉坤⁴ 李建和⁵ 林柳池² 黃國書¹
Yi-Chih Hsu¹ Chia-Chun Wu² Ying-Chun Chiu³ Yue-Cune Chang⁴ Chian-Her Lee⁵ Leou-Chyr Lin²
Guo-Shu Huang¹

三軍總醫院 放射診斷部¹ 骨科部²; 左營國軍總醫院 放射診斷部³; 淡江大學 運輸管理學系⁴; 台北醫藥大學附設醫院 骨科部⁵

Department of Radiology¹, Department of Orthopedics², National Defense Medical Center and Tri-Service General Hospital, Taipei, Taiwan; Department of Radiology³, Zuoying Armed Force General Hospital, Kaohsiung, Taiwan; Department of Transportation Management⁴, Tamkang University, New Taipei, Taiwan; Department of Orthopedics⁵, Taipei Medical University Hospital, Taipei, Taiwan

BACKGROUND: The relationship between meniscal tears and parameniscal cyst formation is contentious. We investigated whether the development of a parameniscal cyst is related to the size of the meniscal tear by using magnetic resonance imaging (MRI).

METHODS: On the basis of a retrospective review of an MRI database, we identified parameniscal cysts in 34 patients with adjacent meniscal tears extending to the meniscocapsular junction. The size of the meniscal tear was measured by dividing the length of the tear along 2 axes: anterior-posterior (A-P) and transverse. We compared parameters, such as the size of the meniscal tear, location of the tear, pattern of each tear, and any associated ligamentous injury and intraarticular lesion, between the 34 patients and 30 control patients, who only had meniscal tears with torn components extending to the meniscocapsular junction.

RESULTS: Compared to the controls, patients with parameniscal cysts had significantly larger meniscal tears along the A-P axis ($P < 0.001$). A critical size of the meniscal tear along the A-P axis of 12 mm was associated with the formation of a parameniscal cyst.

CONCLUSIONS: A larger meniscal tear is more likely to be associated with the occurrence of a parameniscal cyst. The critical size of the meniscal tear, 12 mm along the A-P axis identified using MRI, is a discrimination value for the formation of a parameniscal cyst.

利用磁振造影擴散特點評估正中神經在腕隧道症候羣：初步結果 DP018-MS
Assessment of Median Nerve in Carpal Tunnel Syndrome Subject by Using
Magnetic Resonance Imaging Diffusion Characteristics: Preliminary Results

陳惠誼 蔡伯邦 許正男 何永仁 沈戊忠
Hui-Yi Chen Po-Pang Tsai Jeng-Nan Shu Yung-Jen Ho Wu-Chung Shen

中國醫藥大學附設醫院 放射線部
Department of Radiology, China Medical University Hospital, Taichung, Taiwan

PURPOSE: Assessment of Median Nerve in carpal tunnel syndrome using diffusion tensor imaging (DTI) in the patients with carpal tunnel syndrome (CTS).

MATERIALS AND METHODS: A total of 20 CTS patients (15 female and 5 male) were scanned on a 3T magnetic resonance imaging (MRI) scanner. Average subject age was 49.5 years (range, 30-69). The MRI protocol included a DTI sequence from which the fractional anisotropy (FA), apparent diffusion coefficient (ADC), and the parallel and radial diffusivities could be extracted. Those parameters were quantified at different locations along the median nerve (proximal to the carpal tunnel, within the carpal tunnel, and distal to the carpal tunnel).

RESULTS: The mean (SD) FA of the median nerve was 0.374 and 0.403 within the carpal tunnel at pisiform and hook level. The mean (SD) ADC of the median nerve was 1.28 and 1.20×10^{-3} mm²/s within the carpal tunnel at pisiform and hook level. In CTS subjects the FA decreased and the radial diffusivity increased in comparison with the data as reported by Lawrence Yao. et al. Additional MR finding in the carpal tunnel syndrome included increased signal intensity of the median nerve on fat-suppressed T2WI in 16 patients.

CONCLUSION: DTI enables quantitative analysis of the the median nerve in carpal tunnel in CTS patients. The FA and radial diffusivity indices are the most sensitive ones for evaluation of CTS.