

膝關節髓骨病變MR影像偵測及診斷之研究

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摘要

中文摘要 膝蓋疼痛通常是因為軟骨的磨損，軟骨表面的成分就成為一種磨耗物質散布在關節之中，並對關節內側的滑膜造成刺激，滑膜會產生一種分解酵素，而這種分解酵素反而會對膝關節滑膜造成刺激，進而產生關節疼痛等問題。本論文主要是針對膝關節髓骨滑行機轉自動化診斷進行全面性的研究，以動態自動分析研究方式取代傳統靜態診斷方式，每位志願者都有各種不同角度的橫切與縱切膝關節影像。橫切部分是利用骨頭位置限制結合亮度能量最大法及滑動視窗二值化分割法之互補功能分割橫切影像求出三個角度；縱切部分利用骨頭位置限制及亮度能量最大法分割影像求出股骨與脛骨之夾角，然後再由統計分析求出所有角度的平均值及標準差的範圍，這項研究可以幫助醫生做臨床上的膝關節功能診斷。

關鍵詞：核磁共振造影；動態自動分析；骨頭位置限制及亮度能量最大法

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