

The use of routine knee MRI in a Belgian tertiary referral centre

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Abstract

Background and study aims

MRI provides a detailed view of the knee. Its ever increasing efficiency and popularity among clinicians has led to extended patient waiting times. The purpose of this study was to report the frequency of knee MRI diagnoses and explore the treatment type according to diagnosis and prescribing physician.

Materials and methods

A single-center retrospective study on a large series of patients referred for knee MRI at Antwerp University Hospital from January 1st till December 31st 2019 was performed. Data retrieved from the patient's electronic record included: demographics, availability of prior X-ray, diagnosis on MRI (e.g. signs of osteoarthritis, meniscal or ligamentous tear), prescribing physician (general practitioner (GP), orthopedic surgeon (OS) or other) and subsequent therapy type (conservative or surgical).

Results

Knee MRI data from 1730 patients (mean age 45.3 y, range 0-89y) was included in this study. 292 (17%) MRIs were requested due to acute complaints. A prior X-ray was available in 453 (26%) patients. The most common knee MRI diagnosis was signs of osteoarthritis (n= 1164, 67.3%), followed by meniscal tear (n=725, 42%). In 109 (6%) patients, at least one ligamentous injury was detected. 132 (6%) MRIs revealed no abnormalities. Most MRIs were requested by GP (n=759, 44%) and OS (n=727, 42%). Of all patients, 359 (21%) received surgical treatment. Younger patients ($p < 0.0001$) and those diagnosed with ligamentous ($p < 0.0001$) or meniscal tears ($p < 0.0001$) had a significantly higher surgical rate ($p < 0.0001$). The surgical rate between GP (8%) and OS (7%) was not significantly different ($p = 0.9772$). There was no significant difference in normal MRIs among different prescriber groups ($p = 0.2795$).

Discussion

Our study revealed that a significant number of MRIs were conducted without prior X-rays, with the most prevalent pathology being signs of osteoarthritis. Notably, many knee MRIs were ordered for chronic complaints. Consequently, a considerable portion of knee MRIs might lack significant diagnostic value, leading to unnecessary patient waiting times. There was no significant difference in the frequency of normal MRIs across the various prescriber groups. The overall surgical rate was low, with no significant difference between GP and OS.