A SYSTEMATIC REVIEW OF INTERNATIONAL GUIDELINES REGARDING THE ROLE OF RADIOGRAPHY IN THE DIAGNOSIS OF OSTEOARTHRITIS

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Background: A substantial proportion of primary care osteoarthritis (OA) consultations are associated with an X-ray request(1,2). Uncertainty exists regarding the ability of radiography to improve a clinical OA diagnosis, and the over-use of radiography may lead to inappropriate referrals due to severe radiographic features that do not correlate with patients' symptoms. Additionally, there are cost implications of unnecessarily imaging such a prevalent disease. As evidence questions the utility of routine radiography in OA, the extent to which radiography is supported by international guidelines is unknown.

Objectives: To undertake a systematic review and narrative synthesis of UK and international guideline recommendations on the role of radiography in the diagnosis of OA.

Methods: A systematic search of eleven electronic databases (including EMBASE, MEDLINE CINAHL, Epistemikonos and Guideline Central) and the websites of nine professional organisations (including NICE, Royal College of Radiologists (RCR), EULAR, and the American College of Radiology (ACR)) identified the most recent evidence-based guidelines produced by professional organisations on the role of imaging in OA. Guidelines not addressing the role of radiography in the diagnosis of OA were excluded, as were non-English and spinal OA guidelines. Each title was screened by one reviewer whilst each abstract and full text underwent dual screening. A single reviewer, using a standard proforma, undertook data extraction. Each guideline was independently appraised by two reviewers using the AGREE II tool. A narrative synthesis of the nature and consistency of OA radiographic recommendations was performed.

Results: 18 evidence-based OA guidelines published between 1998-2019 were included. These guidelines considered OA at any joint (n=8), or at the knee (n=3), hip (n=2), wrist (n=1), foot (n=1), and ankle (n=1). Seven guidelines were produced by European organisations; four guidelines were produced by EULAR. Guidelines were targeted at general practitioners (n=11), radiologists (n=7), rheumatologists (n=4) and orthopaedic surgeons (n=3). Using the AGREE II tool, the identified guidelines scored highly on rigour of development (mean score 69%) but poorly on applicability (32%). All 18 guidelines recommended X-rays as the first-line modality, where imaging was indicated. A clinical diagnosis of OA without radiographic confirmation was recommended by all ten guidelines produced by organisations represented general practitioners, with seven guidelines justifying this due to a poor correlation between radiographic features and clinical symptoms. Only three guidelines explicitly discouraged the routine use of radiography for the diagnosis of OA and only two guidelines reassured practitioners of a low probability of missing serious pathology when not routinely requesting radiographs. Guidelines produced by organisations representing radiologists were more supportive of radiography. The ACR recommended radiographic confirmation in patients suspected to have OA at the hand, wrist, hip, and knee, and conversely the RCR recommended radiographic confirmation in patients suspected to have OA at the hand, feet, and hip, but not the knee.

Conclusion: Differences in guideline recommendations on the utility of radiography in OA appear related to country/region, professional organisation, and joint. The use and utility of radiography in OA may need to be reviewed in light of a shift towards remote consultations, a change that has been accelerated by COVID-19 in many countries.

REFERENCES:

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