RELIABILITY, VALIDITY AND FEASIBILITY OF THE DOYLE INDEX, A PAIN MEASURE IN OSTEOARTHRITIS

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Purpose: Pain, a core outcome in osteoarthritis (OA) research, can be measured during physical examination by an articular index called the Doyle Index. The value of this pain score as an outcome measure in OA is not established. In the present study the reliability, validity and feasibility of this index will be determined.

Methods: The Doyle Index includes 48 joints or joint groups, being hands, wrists, elbows, shoulders, acromioclavicular, sternoclavicular, hips, knees, ankles, feet and spine. Pain is assessed by pressure on the joint margin or by passive movement of the joint, scored on a four-point scale (0 = pain, 1 = + pain, 2 = + pain and wincing, 3 = pain, wincing and withdrawal of the joint; range 0–144). The Doyle Index was performed by one observer in 90 patients at multiple joint sites in the hands or with OA in two or more of the following joint sites: hand, knee, hip, cervical or lumbar spine. Reliability and feasibility were determined in a random sample of 18 patients, by examining these patients twice with a 90 minutes time interval, using four observers. Intraclass correlation coefficients (ICC) and their 95% confidence intervals (CI) were calculated, as well as the mean time it took each observer to perform the Doyle Index. Validity was assessed by correlating Doyle Index scores obtained in the whole population to the pain subscale scores of the Australian/Canadian Osteoarthritis Hand Index (AUSCAN) and the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), using Spearman rank coefficient.

Results: The patient population consisted of 90 patients (82% women, mean age 65.0 years). The median Doyle Index score for the whole population was 9.5 (interquartile range (IQR) 4.1–16). The median score of all observations in the sample of 18 patients was 16.5 (IQR 8.25–29.75).

Interobserver reliability was 0.88 (95% CI 0.77–0.94). Intraclass correlation coefficients (ICC) and their 95% confidence intervals (95% CI) were calculated, as well as the mean time it took each observer to perform the Doyle Index. Validity was assessed by correlating Doyle Index scores obtained in the whole population to the pain subscale scores of the Australian/Canadian Osteoarthritis Hand Index (AUSCAN) and the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), using Spearman rank coefficient.

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Conclusions: As the mean time it took each observer to perform the Doyle Index for a single patient was between 4.0 and 6.0 minutes.

The Doyle Index scores correlated to the AUSCAN pain subscale (r = 0.48 (p < 0.001)) and to the WOMAC pain subscale (r = 0.45 (p < 0.001)).

Conclusions: The Doyle Index showed to be a reliable, valid and feasible measure for the assessment of OA pain during physical examination. Based on the findings of the present study, the Doyle Index is a promising outcome measure for pain in OA, although further research on its clinimetric properties is advisable.

CHOOSING SURGERY: PATIENTS’ PREFERENCES WITHIN A TRIAL OF TREATMENTS FOR ANTERIOR CRUCIATE LIGAMENT INJURY

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Purpose: To understand patients’ views of treatment after acute anterior cruciate ligament (ACL) injury, and their reasons for deciding to request surgery.

Methods: 34 in-depth qualitative interviews with young (aged 18–35), physically active individuals with ACL rupture who were participating in a RCT comparing training and surgical reconstruction with training only. 22/34 were randomised to training only but crossed over to surgery. Of these, 11 were interviewed before surgery, and 11 were interviewed at least 6 months after surgery. 12 patients were interviewed before randomisation. Interviews were audio-recorded, transcribed and analysed using the Framework approach.

Results: Strong preference for surgery was commonplace and many patients said that they joined the RCT in order to bypass waiting lists. Patients who chose to cross-over to the surgery arm of the trial described training as time consuming, boring and as unable to provide sufficient results within a reasonable timeframe. Some said their injured knees had given-way during activity; others experienced new knee traumas; and many described their lack of trust in their knee. Patients believed that surgery would provide joint stability. Despite their ostensible satisfaction with surgery, more detailed exploration showed that patients held mixed views.

Conclusions: Participants in a trial of treatments for acute ACL injury express a variety of views and beliefs about those treatments, and trial participation happens in the absence of equipoise. Furthermore, opting for surgical reconstruction does not necessarily provide patients with satisfactory outcomes. This suggests that definition of successful outcome may require an individualised approach, incorporating patients’ as well as surgeons’ views before treatment decisions are made.

PAIN AND FUNCTIONAL DISABILITY IN SYMPTOMATIC HAND OSTEOARTHRITIS DEPEND ON TYPE OF JOINT INVOLVEMENT

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Purpose: Hand osteoarthritis (OA) can affect the carpometacarpal joints (CMCs) and the interphalangeal joints (IPJs). This study investigates whether OA in the CMCJs or IPJs comprise different clinical entities.

Methods: Patients with familial OA who participate in the QARP (Genetics ARthritis and Progression) study, were eligible for the present study if they had hand OA defined by the American College of Rheumatology criteria for clinical hand OA or the presence of structural abnormalities (multiple bony swellings or radiological OA) in the hands. Patients were assigned to 3 groups, based on self reported pain and/or stiffness in the CMCJs and IPJs. Group 1, 2 and 3 consisted of patients with symptoms at the IPJs only, symptoms at the CMCJs only or symptoms at both sites, respectively.

Hand pain and function were assessed with the Australian/Canadian Osteoarthritis Hand Index (AUSCAN LK 3.0). CMCJs and IPJs were evaluated for radiological damage on standardised radiographs using the Kellgren-Lawrence (KL) grading scale.

Groups were compared using one-way ANOVA and the Kruskall-Wallis test. Linear regression was used to adjust for number of symptomatic joints, age, sex, body mass index (BMI) and family effects.

Results: Of the 308 hand OA patients (86% women, mean age 60.1 years, 87% fulfilling ACR criteria) participating in the present study, 138 (44.8%) were assigned to group 1, 20 (6.5%) to group 2 and 150 (48.7%) to group 3. Group 3 consisted of significantly more women (93%) compared to group 1 (81%) and 2 (75%). Other demographic characteristics did not differ between the groups.

The median (interquartile range (IQR)) number of painful joints was 4.0 (2.0–6.0) for group 1, 2.0 (1.3–2.0) for group 2 and 7.0 (4.0–12.0) for group 3. KL scores did not differ between the groups. Median (IQR) AUSCAN total scores were 16.0 (9.3–26.0) for group 1, 23.0 (15.0–30.0) for group 2, and 28.0 (16.0–37.0) for group 3. After adjustment for number of symptomatic joints, age, sex, BMI and family effects, AUSCAN total scores were 5.7 points (95% CI 2.8–8.6) lower for group 1 compared to group 3 and 7.7 points (95% CI 2.2–13.3) lower compared to group 2. AUSCAN pain and function scores showed the same pattern. AUSCAN scores were associated with the number of symptomatic joints after adjustment for age, sex, BMI and family effects (β=0.9 (95% CI 0.6–1.1) for AUSCAN total score).

Further regression analysis showed that AUSCAN total scores were 6.0 points (95% CI 3.8–8.7) higher for patients with symptomatic CMCJs compared to patients without symptomatic CMCJs; AUSCAN pain scores were 2.1 points (95% CI 1.2–3.1) higher and AUSCAN function scores were 3.7 (95% CI 1.9–5.6) higher.

Conclusions: Pain and functional disability in hand OA seem to depend not only on the number of symptomatic joints but also on the type of joint involved. CMCJ OA is suggested to add more to self reported pain and functional impairment than IPJ OA. Hence, treatment should focus on CMCJ OA.

ACTIVE KNEE JOINTS’ OSTEOARTHRITIS TREATMENT

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Purpose: Knee joints osteoarthritis (OA) is one of the most important medical social problems. Therefore its study has become one of the priority directions of the Bone and Joint Decade 2001–2010, Geneva 1999. The pathology of periarticular tissues worsens the course of knee joints OA, but diagnostics and treatment in proper time improves the quality of patients’ life. The purpose of the present work was to estimate