Foot and Ankle Surgery 20 (2014) 241–247

Contents lists available at ScienceDirect

Foot and Ankle Surgery

journal homepage: www.elsevier.com/locate/fas

The impact of ankle osteoarthritis. The difference of opinion between patient and orthopedic surgeon

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ARTICLE INFO

Article history:
Received 23 February 2014
Received in revised form 24 April 2014
Accepted 21 May 2014

Keywords:
Osteoarthritis
Ankle
Impact
Patient reported outcome measures

ABSTRACT

Background: Outcome measures for ankle osteoarthritis (OA) are created by physicians with little input of the target patient group. The aim of this study was to determine the difference in opinion between patients and orthopedic surgeons concerning the importance of specific symptoms of ankle OA and its impact on daily life and function.
Methods: A modified Delphi method was applied, consisting of structured interviews with patient focus groups and experts, followed by a poll using 32 statements. The difference in opinion between patients and orthopedic surgeons was evaluated.
Results: Forty patients and forty orthopedic surgeons responded to the 32 statements. Statistically significant differences in opinion on symptoms, function and the impact of ankle OA on daily life were found.
Conclusions: This study demonstrates a significant difference in opinion between patients and orthopedic surgeons concerning specific symptoms of ankle OA. These results advocate incorporating the needs and demands of the individual patient for new outcome measures.

1. Introduction

Ankle osteoarthritis (OA) is post-traumatic in about 75% of the patients [1,2]. Ankle trauma occurs in many patients at a relatively young age [1,3]. Consequently, the majority of ankle OA patients are relatively young and their expected life span is significantly longer than the typical remaining life span of hip or knee OA patients. Patients experience serious disabilities, which prevent them from participating in moderate to heavy labor and sports activities. Due to the short and long term complications, surgical treatment has always been specifically indicated for end-stage ankle OA [4–9]. Little is known about the disabilities and symptoms patients experience at an early stage of ankle OA. Since no cure is available at this point, the conservative treatment of symptomatic ankle OA focuses mainly on treating pain and stiffness, improving or maintaining function with prevention of further deterioration of the joint [10].

To monitor the effect of these conservative treatment modalities, different scoring systems are used. The Arbeitsgemeinschaft für Osteosynthesefragen Handbook on Musculoskeletal Outcomes Measures and Instruments describes 42 ankle scores [11]. Seventeen of these are validated. Five are used for monitoring the conservative treatment of ankle OA, i.e. the American Academy of Orthopedic Surgeons (AAOS) foot and ankle scale, the American Orthopedic Foot and Ankle Society Scale (AOFAS) score, the Ankle Osteoarthritis scale (AOS), the Foot and Ankle Ability Measure (FAAM), and the Foot and Ankle Outcome Score (FAOS) (Table 1) [12–20]. The Foot Function Index (FFI) is mentioned in the book as a foot score, but is often used as an outcome measure for ankle problems [21–25].

The AOFAS scale has been used more frequently in orthopedic literature than the FFI, the AOS, and the Visual Analogue Score (VAS) for pain [26,27]. Other, more general outcome measures are the Western Ontario and McMaster Universities Arthritis Index (WOMAC) and Short Form 36 (SF-36) [28–30]. The former is normally used and validated to evaluate the condition of patients with hip or knee OA, but it is also applied to patients with an arthritic condition in the ankle [26]. The latter is used to evaluate individual health status [29]. In order to get an outcome measure

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http://dx.doi.org/10.1016/j.fas.2014.05.008
1268-7731/

Table 1
Validated ankle scores used for ankle osteoarthritis.

	AAOS foot and ankle scale [12]	AOFAS [13,15–18]	AOS (modified from FFI) [14]	FAAM [19]	FAOS (adaptation from KOOS) [20]	FFI [17,21–25]
Validated for	Common foot and ankle complaints	General hindfoot problems	Isolated osteoarthritis of the ankle	Assess physical function of patients with musculoskeletal disorders participating in physical therapy	Ankle ligament reconstruction	Rheumatoid arthritis and general foot and ankle complaints
Scale	4 subscales 1. Pain 2. Function 3. Stiffness and Swelling 4. Giving way	3 subscales 1. Pain 2. Function 3. Alignment	2 subscales 1. Pain 2. Disability	2 subscales 1. Activities of daily living 2. Sport activities	5 subscales 1. Pain 2. Other symptoms 3. Activities of daily living 4. Sports and recreation 5. Quality of life	3 subscales 1. Foot pain 2. Disability 3. Activity limitation
Type	Patient reported outcome	Clinician based outcome	Patient reported outcome	Patient reported outcome	Patient reported outcome	Patient reported outcome
Outcomes validated against	WOMAC SF-36 Physician rating of pain and function	SF-36 FFI QUALY score	SF-36 WOMAC Single leg heel lifts	SF-36	Karlsson ankle function score	SF-36

that monitors clinical outcome in ankle OA patients, it is imperative to know what is considered relevant for the target patient group [31]. Most outcome scores were made by physicians and validated for one specific disease. It seems logical to use terms and outcomes that are important to the target group if constructing a useful outcome measure that can be used as a patient reported outcome measure (PROM). PROMs are mandatory nowadays to evaluate the quality and effect of treatments.

As most of the outcome measures are created by physicians with no or little input of the target patient group, the primary question of the current study was to determine whether there is a difference in opinion between patients and orthopedic surgeons concerning the importance of specific symptoms of ankle OA and the impact on daily life and function.

Hypothesis. There is a significant difference between what patients and orthopedic surgeons regard to be clinically relevant symptoms of ankle OA and what patients and orthopedic surgeons judge to be the impact of ankle OA on daily life and function of these patients.

2. Methods

2.1. Study design

The study was performed in two parts. A modified Delphi method was used to gain the opinions of patient and orthopedic surgeons about ankle OA. The original Delphi method was modified because the focus was on patient opinions instead of expert opinions, as described originally [32,33].

Focus groups were used for acquiring patient opinions on ankle OA and its impact on daily life. Three focus groups of patients were composed. A patient focus group consisted of three to four patients with different degrees of ankle OA (van Dijk grade 2 or 3) and two researchers (MB, CH) one of which was the interviewer (MB) (Table 2) [34]. Focus group meetings were held at the hospital, to create an informal atmosphere each 2 h session, was started with a short coffee break to get acquainted. Eleven patients participated. Patients were recruited at our outpatient clinic using specified in- and exclusion criteria (Table 3). Written, informed consent was obtained from each patient prior to enrolment in the study. Six Questions were asked during the focus group meetings, the questions were composed with the aid of existing outcome scores, i.e. AOFAS, FAOS, FAAM, FFI, SF-36, AOS and VAS for Foot and Ankle Pain (Table 4).

For the expert opinions, six foot and ankle expert orthopedic surgeons having a daily practice of more than 50% foot and ankle surgery were interviewed (MB) using a structured questionnaire (Table 5). The results from the interviews and focus groups were combined to develop 32 statements (Table 6).

The second part of the method contained the analysis of the difference in opinion between orthopedic surgeons and patients by

Table 2
Demographics of different focus groups.

	Focus group 1 *N* = 4	Focus group 2 *N* = 3	Focus group 3 *N* = 4
Gender			
Male	1	2	3
Female	3	1	1
Age (years)	57.7 (47–64)	54.3 (45–59)	51.2 (29–66)
Grade of OA			
Grade 2	2	1	2
Grade 3	2	2	2

Table 3
Inclusion and exclusion criteria for patients.

Inclusion criteria
- Patients of either gender, between 18 and 75 years of age
- OA pain in the ankle
- Diagnosed with primary or secondary ankle OA at least 6 months before inclusion
- Ankle OA based on radiographs (van Dijk grade 2 or higher) [34]
- Subjected to at least one type of conservative treatment
- An active lifestyle and in general good health

Exclusion criteria
- Other joint complaints especially of the same limb (e.g. hip or knee osteoarthritis) that could interfere with a clear judgment of their ankle complaints
- Other factors assessed by the investigators that may limit the ability of the patient to perform necessary study evaluations (e.g. rheumatoid arthritis, cardiovascular impairment)