Patellofemoral pain mapping

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1. Abstract

Objective: To assess relationships between knee pain location and severity, clinical tests and patellofemoral (PF) chondral lesions.

Methods: One hundred and forty-three primary knee arthroscopy patients (88 females, 55 males; mean age 38 years, range 18-75) were invited to participate in the study. A primary PF lesion was defined as the presence of grade 2 or greater cartilage lesion on at least one of the four quadrants of the PF joint assessed by direct arthroscopy. Clinical assessment was performed by a single research physiotherapist. The PF joint was clearly inspected by using a 70 degree arthroscope. Previous studies which have investigated PF lesions have not detailed how the arthroscopic procedure accurately identified the PF lesions [1, 2].

Results: One hundred and forty-three primary knee arthroscopy patients (88 females, 55 males; mean age 38 years, range 18-75) were invited to participate in the study. A primary PF lesion was defined as the presence of grade 2 or greater cartilage lesion on at least one of the four quadrants of the PF joint assessed by direct arthroscopy. Clinical assessment was performed by a single research physiotherapist. The PF joint was clearly inspected by using a 70 degree arthroscope. Previous studies which have investigated PF lesions have not detailed how the arthroscopic procedure accurately identified the PF lesions [1, 2].

Conclusion: The presence of high grade PF lesions was more clearly correlated with PF pain symptoms than any other clinical examination finding. This study suggests that patellofemoral pain and PF lesions are generally correlated, and that PF lesions are more strongly associated with PF pain symptoms than any other clinical examination finding. This study also suggests that PF lesions are more strongly associated with PF pain symptoms than any other clinical examination finding.

2. Introduction

Managing patellofemoral (PF) disease is controversial [3]. The role of chondral lesions in the aetiology of knee pain is poorly understood [4]. Chondral and osteochondral defects of the femoral trochlea are often recognised incidentally by surgeons during the evaluation and treatment of other pathology [5]. The incidence and distribution of PF lesions usually recognised by surgeons and the incidence and distribution of PF lesions as surgical lesions or radiological findings are not the same [5, 6]. The PF joint is a complex joint with a high degree of motion and mobility, and its function is closely related to the surrounding musculature and soft tissues [7]. Previous studies have reported that PF lesions are commonly associated with symptomatic anterior knee pain [8-10]. However, the aetiology and pathogenesis of PF pain are not fully understood [11]. The literature has not established whether PF chondral changes are in absolute relation to anterior knee pain or PF symptoms [12]. An MRI study of asymptomatic professional basketball players identified patellar lesions in 35% and trochlear lesions in 25%, but only half of these lesions were categorised as being grade 3 or 4 [13]. In contrast, another study using MRI investigations found a significantly positive association between articular lesions of the patella and anterior knee pain, suggesting that even minor lesions may be of clinical importance [14]. The literature has not established whether PF chondral changes are in absolute relation to anterior knee pain or PF symptoms [12]. An MRI study of asymptomatic professional basketball players identified patellar lesions in 35% and trochlear lesions in 25%, but only half of these lesions were categorised as being grade 3 or 4 [13]. In contrast, another study using MRI investigations found a significantly positive association between articular lesions of the patella and anterior knee pain, suggesting that even minor lesions may be of clinical importance [14].

3. Methods

3.1. Study Design

A cross-sectional study was performed for the indications listed in Table 1. Sixty-one were male, thirty-nine were female. The mean age was forty three (range, 16 to 72). Forty-three patients had PF grade 2 or greater lesions in one patellofemoral joint and forty-five patients had grade 2 or greater lesions in both patellofemoral joints. All patients had PF cartilage lesions assessed by arthroscopy measurements are improved by the use of variable angle elongated probes. Annals of Rheumatic Diseases 2002: 61; 540-543.

3.2. Preoperative assessment

Each patient completed the Kujala score [20] an anterior knee pain questionnaire [21] and the SF-36. A patient was considered to have PF pain if they reported anterior knee pain and had a score of less than 10 on the Sono-Measure Test for patellar tendinopathy. The presence of PF pain was confirmed using a PF test. The PF test is performed by extending the knee and applying a forceful component of the quadriceps muscle from the seated position. Pain or apprehension indicates a positive test. This study explores the relationship between PF lesions identified at arthroscopy and the presence of anterior knee pain, together with other clinical examination findings and objective scoring assessments (Kujala test, Pain on palpation). It was hypothesised that the presence of PF lesions would be associated with anterior knee pain, pain and PF lesions.

4. Results

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4.2. Pain location mapping

Pain location and severity is an important aspect of knee function and can provide valuable information for the assessment of knee pain 

4.3. VAS scores

There was a moderate “positive” association (0.42) between VAS scores and PF lesion grade (P=0.05) as shown in Figure 5.

5. Discussion

The provisional results in this study show that the patellar pain mapping method in this general population is a useful tool for the assessment of PF pain. The method is a useful tool for the assessment of PF pain. The method is a useful tool for the assessment of PF pain. The method is a useful tool for the assessment of PF pain.

6. References

2. The Knee 2010: In Press. Accepted for publication 24th August 2010.