510 THE ASSOCIATION BETWEEN PRESSURE-PAIN TOLERANCE THRESHOLD AND LOCAL AND/OR SYSTEMIC INFLAMMATION IN OBESE KNEE OSTEARTHRITIS PATIENTS: A CROSS-SECTIONAL STUDY.

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Purpose: The most prominent manifest of osteoarthritis (OA) is cartilage loss although, inflammation is acknowledged as an important factor that may also sensitize the pain system. Obesity is strongly associated with knee OA, and clinical and experimental evidence suggests that obesity is a low-grade systemic inflammatory condition. It is, however, unknown if the presence of inflammation affects the pain sensitivity in obese knee OA patients. The aim of the study was to investigate whether local and/or systemic signs of inflammation are associated with pain sensitivity in obese knee OA patients. A secondary aim was to assess the association between local and systemic signs of inflammation.

Methods: Baseline data from a prospective weight loss study (the CAROT study) including 192 patients were used. Local inflammation was assessed as synovitis scores from a semi-quantitative grading of MRI images using a comprehensive scoring method, the Boston-Leeds Osteoarthritis Knee Score (BLOKS). The infrapatellar fat pad size was taken as a marker of local inflammation severity and scored as: 0—normal; 1—mild; 2—moderate; 3—severe synovitis (Infrapatellar Size Score). Further, the extent of synovitis on MRI was scored as presence (yes/no) of synovitis in 5 regions of the knee: i) infrapatellar fat pad, ii) medial posterior-condylar, iii) lateral posterior-condylar, iv) medial recess, and v) lateral recess (Synovitis Extent). Systemic inflammation was assessed by serum C-reactive protein - (CRP). For assessment of pain sensitivity pressure-pain tolerance threshold (PTT) of the lower leg was assessed using a computerized tourniquet cuff pressure algometer. When the pressure pain intensity was intolerable patients pressed a button and the termination pressure defined the PTT (recorded in kPa). Bivariate Spearman’s rank correlation was used to evaluate associations between PTT and local and systemic signs of inflammation.

Results: All the patients included in the trial (192) had CRP measurements, 176 had PTT assessments, and 187 underwent MRI. The average PTT was 40.9 kPa (SD 19.9) and the mean CRP was 6.0 mg/L (SD 6.4). The median infrapatellar fat pad size score was 1 (quartiles 0.1; and the median number of synovitis sites was 3 (quartiles 2.4). There were no statistical associations between PTT and the MRI outcomes (P<0.73), nor with CRP (P= 0.79; Table). Neither were CRP and the MRI outcomes statistically associated (P=0.64; Table).

Conclusions: This study does not provide evidence of any association between local or systemic signs of inflammation and pain sensitivity in obese knee OA patients. There was also no association between local and systemic indices of inflammation in obese knee OA patients.

Spearman rank-correlation coefficients: r (p-value)

<table>
<thead>
<tr>
<th>PTT (n=176)</th>
<th>MRI (BLOKS score)</th>
<th>CRP (n=192)</th>
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<tbody>
<tr>
<td>Infrapatellar Size Score (n=187)</td>
<td>Synovitis Extent (n=187)</td>
<td></td>
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<tr>
<td>PTT</td>
<td>0.02 (0.79)</td>
<td>-0.02 (0.79)</td>
</tr>
<tr>
<td>CRP</td>
<td>0.02 (0.82)</td>
<td>-0.04 (0.64)</td>
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<tr>
<td>PTT – pressure-pain tolerance thresholdCRP – C-reactive protein</td>
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511 PREDICTING DETERMINANTS FOR INCIDENT KNEE PAIN AFTER 2 YEARS IN MIDDLE-AGED WOMEN: A LONGITUDINAL OSTEOARTHRITIS STUDY


Purpose: Early recognition of knee osteoarthritis (OA) is a problem since specific high-risk profiles are lacking. Predicting who will develop knee pain in a later stage is one step in the process of identifying persons at high-risk of OA development. The aim of this study is to identify prognostic determinants for new knee pain at two years of follow-up in women of middle age.

Methods: Data from women between age 45 and 60 of the Rotterdam Study that were included in an MRI study (n= 891) was used if they had at least one pain-free knee at baseline. Degenerative signs of knee tissues (MRI), physical examination and history taking data, as well as OA risk factors were assessed at baseline in the research center; knee pain presence at two years was assessed using questionnaires. Analyses were performed using GEE.

Results: In total 207 women reported knee pain in one knee at baseline, 460 women reported not having any knee pain at baseline. Finally, 667 women (1334 knees) were included in the analysis with a mean age of 53.9 years. In the group of women with unilateral knee pain at baseline, 16.4% had incident knee pain in the pain-free knee at baseline, in the group of knee pain-free women at baseline the incidence was 23.0%.

The best predicting determinants for incident knee pain after two years in all women were: past knee trauma (OR: 1.62, 95% CI: 1.08 - 2.42) and pain in the other knee at baseline (OR: 2.7, 95% CI: 1.82 - 4.01). In knee pain-free women at baseline tenderness on palpation of the tibiofemoral joint space (OR: 3.25, 95% CI: 1.40 - 7.56), past knee trauma (OR: 1.75, 95% CI: 1.02 - 2.99) and lateral meniscus degeneration on MRI (OR: 2.20, 95% CI: 1.02 - 4.73) were the best predictors. In women with knee pain in one knee these were: past knee trauma (OR: 2.05, 95% CI: 1.22 - 3.47), being post-menopausal, (OR: 2.26, 95% CI: 1.08 - 4.71) crepitus on active movement (OR: 2.07, 95% CI: 1.14 - 3.74) and higher BMI (OR: 1.06, 95% CI: 1.01 - 1.11).

Conclusions: Pain in the other knee and knee trauma were the best predictors for incident knee pain. In addition, several items from physical examination were predictive for incident pain two years later, with equal or higher magnitude than MRI items.

512 WEIGHT-BEARING VERSUS NON-WEIGHT-BEARING PAIN. ARE THEY EQUALLY RELATED TO MRI FINDINGS?


Purpose: Pain is the most common complaint reported by patients with osteoarthritis (OA), but its origin is largely unknown. It is difficult to measure as it is subjective and different types of pain seem to exist (e.g. pain on walking, on climbing stairs, on standing, at night, and at rest). It still remains unclear if these different types are related to different degenerative changes in the joint. Therefore, the present