OUTCOME PREDICTION FOR TREATMENT OF KNEE OSTEOARTHRITIS WITH A TOTAL KNEE ARTHROPLASTY. DEVELOPMENT AND VALIDATION OF A PREDICTION MODEL FOR PAIN AND FUNCTIONAL OUTCOME USING THE DUTCH ARTHROPLASTY REGISTER (LROI) DATA


Background: One of the main determinants of treatment satisfaction after total knee arthroplasty (TKA) is the fulfillment of preoperative expectations. For optimal expectation management it is useful to be able accurately predict the treatment result. Multiple patient factors that are obtained for registration in the Dutch Arthroplasty Register (LROI) registry, can be used to predict the chance for residual symptoms after TKA. The predictive models that have been developed can be useful for individual expectation management in patients planned for TKA for knee osteoarthritis.

Disclosure of Interests: None declared.


THU0463

EXPECTATIONS OF TREATMENT RESULT OF KNEE OSTEOARTHRITIS PATIENTS TREATED WITH A TOTAL KNEE ARTHROPLASTY. THE INFLUENCE OF DEMOGRAPHIC FACTORS, PAIN, PERSONALITY TRAITS, PHYSICAL AND PSYCHOLOGICAL STATUS


Background: Unrealistic preoperative expectations have a strong influence on the outcome after total knee arthroplasty (TKA). More insight into determinants of the level of expectations is useful in identifying patients at risk for unrealistic expectations. This information can be used in optimizing pre-operative expectation management.

Objectives: The aim of the current study was to analyze to what extent pre-operative outcome expectations of TKA patients are determined by psychological factors, demographic factors, pain, physical function and general health status.

Methods: A cross-sectional analysis of 204 patients with symptomatic and radiographic knee OA, scheduled for primary TKA was conducted. Outcome expectations were measured using the Hospital for Special Surgery knee replacement expectations survey. Independent variables included were age, sex, body mass index and patient reported outcome measures for pain, physical function, quality of life, anxiety, depression, catastrophizing, optimism and pessimism. Multiple linear regression analyses were used to evaluate associations between these variables and pre-operative outcome expectations.

Disclosure of Interests: None declared.


THU0461

OUTCOME PREDICTION FOR TREATMENT OF KNEE OSTEOARTHRITIS WITH A TOTAL KNEE ARTHROPLASTY. DEVELOPMENT AND VALIDATION OF A PREDICTION MODEL FOR PAIN AND FUNCTIONAL OUTCOME USING THE DUTCH ARTHROPLASTY REGISTER (LROI) DATA

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Background: One of the main determinants of treatment satisfaction after total knee arthroplasty (TKA) is the fulfillment of preoperative expectations. Patient satisfaction was most commonly used (n=10) as single domain with a wide variation in wording of questions and answering categories. The absolute cut-off value was the most common type of response, with large variance in value and timing of follow-up. Table 1 shows one definition for each combination of domains. Conclusion: Our review shows that definitions for poor response to TKA are ambiguous. Our findings stress the need for an unambiguous definition of poor response to draw conclusions about the prevalence of poor-responders to TKA across hospitals and countries, and to identify patients at risk.

Disclosure of Interests: None declared.

THU0464

PHASE 2 CLINICAL TRIAL OF THE GI SAFETY OF A HYDROGEN SULFIDE-RELEASING ANTI-INFLAMMATORY DRUG (ATB-346)

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Background: Hydrogen sulfide (H2S) is a naturally occurring gaseous mediator produced by intestinal bacteria and various eukaryotic cells. H2S exerts anti-inflammatory, pro-resolution and cytoprotective effects in vivo.

ATB-346 is an H2S-releasing derivative of naproxen, which in animals exerts anti-inflammatory, pro-resolution and cytoprotective effects.

Methods: This was a phase 2 clinical trial that demonstrated a dramatic reduction of upper GI ulcer formation in patients with osteoarthritis of the knee, and markedly suppressed cyclooxygenase (COX) activity. The aim of the present study was to determine if ATB-346 would induce less gastroduodenal ulceration than standard dose naproxen.

Results: 53 subjects taking naproxen (42.2%) developed at least one ulcer, while only 3 subjects (2.5%) treated with ATB-346 developed at least one ulcer (p<0.0001). The two drugs suppressed COX activity to the same extent (>95%). Affected subjects in the naproxen group developed more ulcers (an average of 4 per subject) than in the ATB-346 group (an average of 1.3), and there was a much greater incidence of larger ulcers (≥3 mm diameter) in the naproxen group than in the ATB-346 group (125 vs 0, respectively). The incidence of gastro-oesophageal reflux disease and nausea was lower with ATB-346 than with naproxen. Plasma H2S levels were significantly elevated (by 50%; p<0.001) in the ATB-346 group.

Conclusion: Consistent with the pre-clinical studies, this phase 2 clinical trial demonstrated a dramatic reduction of upper GI ulcer formation in subjects treated with equi-effective doses of ATB-346 versus naproxen. The COX inhibition observed in this trial was consistent with a previous phase 2A trial that demonstrated significant pain relief with ATB-346 in patients with osteoarthritis of the knee. ATB-346 appears to be effective and much safer alternative to existing NSAIDs.

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THU0464B

IS THERE AN ASSOCIATION BETWEEN METABOLIC SYNDROME AND SEVERITY OF HAND OSTEOARTHRITIS? RESULTS FROM A NATIONWIDE STUDY

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Background: Hand osteoarthritis (HOA) is a highly prevalent rheumatic disease that predominates in females and causes pain, joint deformities and loss of functional capacity. Overweight and metabolic syndrome have been previously suggested to associate with the severity of HOA, but clarity on these associations is yet to be achieved.

Objectives: To test the possible association between body mass index (BMI) and other individual components of metabolic syndrome with severity of HOA in females from a nationwide epidemiological study.

Methods: EpiReumaPt was a three-stage national health survey where, in the first phase, 10,661 adult participants were randomly selected and interviewed using a structured face-to-face questionnaire that included screening for rheumatic diseases, such as HOA. In the second phase, positive screenings for ≥1 rhematic complaint plus 20% of the negative screenings were invited for an assessment by rheumatologists. Finally, 3 rheumatologists revised all the information and defined the final diagnosis by consensus. Female patients with a final clinical diagnosis of primary HOA were included in this analysis. Hand functional status as asessed by the Cochin questionnaire was the outcome of interest. The explanatory variables of interest were: BMI evaluated as a categorical variable (Normal: 18-24.99; overweight: 25-29.99; obesity: ≥30), diabetes mellitus, hypertension and hypercholesterolemia (all self-reported and as binary variables: yes/no). The possible associations between BMI and the individual components of the metabolic syndrome with the Cochin score were tested in a multivariable linear regression model. Only significant variables (p<0.05) were kept in the final model. Potential confounders of the associations of interest and the outcome were defined in a priori on clinical grounds and included age and symptoms of depression (HADS score).

Results: Out of the 3,877 participants evaluated by Rheumatologists, 473 women had primary HOA (national prevalence: 6.6%). In this population, 40% were overweight and 29% were obese. Ninety-three (20%) participants had diabetes; 261 (50%) had hypertension and 261 (50%) had hypercholesterolemia. In the multiple regression model, BMI and diabetes were found to significantly associate with HOA severity, whereas hypertension and hypercholesterolemia did not, thus not being selected in the final model (table).

Abstract THU0464 – Table 1. Association between individual components of the metabolic syndrome and HOA severity (Cochin score). Multivariable linear regression model

<table>
<thead>
<tr>
<th></th>
<th>Cochin score coefficient (95% CI)</th>
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<tbody>
<tr>
<td>BMI (categorical)</td>
<td>0.31 (0.05; 0.57)</td>
</tr>
<tr>
<td>Diabetes (yes vs no)</td>
<td>3.63 (0.13; 7.13)</td>
</tr>
<tr>
<td>Age (years)</td>
<td>0.13 (0.01; 0.27)</td>
</tr>
<tr>
<td>HADS score (continuous)</td>
<td>0.90 (0.59; 1.22)</td>
</tr>
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</table>

Conclusion: In this study, higher BMI and the presence of diabetes mellitus associated with a worse functional capacity in women with primary HOA. These data add to the body of evidence suggesting a possible role of metabolic factors in the severity of HOA.

REFERENCES:


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