Background: Total knee arthroplasty (TKA) is the gold-standard treatment for end-stage knee osteoarthritis (OA). An increase in the prevalence of primary and revision TKA is projected due to aging of the population, increase in the obesity and OA prevalence, patients' quality of life perceptions and primary TKA procedures. Although TKA reliably improves pain and function, gait ability and function are still low compared to normal levels [1]. It is important to understand the prognosis to decide to undergo a rTKA (revision total knee arthroplasty) or enhance treatment protocols [2].

Objectives: The aim of the study is to compare the functional results of primary and revision TKA.

Methods: Hospital Of Special Surgery knee score (HSS), The Figure-Of-8 Walk Test (F8WT), The Modified Four Step Square Test (mFSST) and the 3-Meter Backwards Walk Test (3MBWT) were used for function assessment.

Table 1. Characteristics of the patients

<table>
<thead>
<tr>
<th></th>
<th>TKA</th>
<th>rTKA</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSS</td>
<td>83.00 (74.00-90.00)</td>
<td>78.50 (68.75-90.25)</td>
<td>0.179</td>
</tr>
<tr>
<td>Age-years</td>
<td>65.00 (57.00 – 70.25)</td>
<td>69.00 (59.50-75.75)</td>
<td>0.178</td>
</tr>
<tr>
<td>BMI(kg/m²)</td>
<td>30.92 (28.41-34.62)</td>
<td>31.61 (25.54-36.41)</td>
<td>0.748</td>
</tr>
<tr>
<td>Time after surgery-years</td>
<td>2.00 (1.50-2.45)</td>
<td>3.00 (2.50-6.50)</td>
<td>0.038</td>
</tr>
<tr>
<td>Female</td>
<td>25 (80.6 %)</td>
<td>20 (69.0 %)</td>
<td>0.296</td>
</tr>
<tr>
<td>Male</td>
<td>6 (19.4 %)</td>
<td>9 (31.0 %)</td>
<td>0.127</td>
</tr>
</tbody>
</table>

*p<0.05

Conclusion: Functional status, fall risk, balance and walking skills of the rTKA patients were lower than the TKA patients. rTKA patients experience longer operation time, hospital stay and make fewer functional gains. Improvement after rTKA is also reported to be lower than TKA and balance could be worsened or does not improve after TKA [2].

Walking skills of the rTKA patients were worse than the TKA patients which may cause rTKA patients to be more cautious and tentative due to fear of falling and failure of the implant leading a more impaired function [2]. rTKA patients' balance was lower and had more fall risk than the patients with TKA. These may be due to the recurrent incision of soft tissues causing a loss of more mechanoreceptors and a greater impairment of proprioception. These findings can help clinicians to make a more informed decision for both primary and revision procedures [3].

References:
[2] Vincent KR, Vincent HK, Lee LW, Alfano AP. Inpatient rehabilitation outcomes in revision and dynamic balance. The 3MBWT demonstrated similar or better diagnostic accuracy for falls in the past year than the most commonly used measures and found to be reliable in healthy subjects. [3] However, its reliability in rTKA has not been investigated.

Objectives: The purposes of this study were to determine the test-retest reliability and the minimal clinically important difference (MCID) of the 3MBWT in patients with rTKA.

Methods: Twenty-two patients with rTKA, operated on by the same surgeon, were included. For the 3MBWT, a distance of 3 meters was marked with tape and participants were asked to align their heels with the black tape. They were instructed to walk backwards as quickly. Patients performed trials for 3MBWT twice on the same day. Between the trials, patients waited for an hour on sitting position to prevent fatigue.

Results: The 3MBWT showed an excellent test-retest reliability. Intra-class correlation coefficient ICC for 3MBWT was 0.97. The standard error of measurement and MCID at the 95% confidence level for 3MBWT were 1.08 and 2.99 respectively.

Conclusion: The 3MBWT has an excellent test-retest reliability in patients with rTKA. It is an effective and reliable tool for measuring fall risk, dynamic balance and walking skills. As a clinical test, the 3MBWT is easy to score, has no cost, needs no special equipment and can be applied in a short time as part of the routine medical examination.

References:

Disclosure of Interests: None declared.

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AB0883 RELIABILITY OF THE MODIFIED FOUR SQUARE STEP TEST IN PATIENTS WITH REVISION TOTAL KNEE ARTHROPLASTY

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Background: Patients with total knee arthroplasty (TKA) often experience pain and reduced balance control, which may predispose them to greater fall risk. The patients with revision total knee arthroplasty (rTKA), have more pain, stiffness and physical dysfunction and less postoperative improvement compared to the patients with TKA [1]. Falls in people with gait or balance disorders have significant consequences. Fear of falling can also predispose people to inactivity, which can lead to problems of debilitation, increased handicap, and disability. Falls are responsible of falls between 40% to 60% and slips between 10% to 15%, showing that the capability to take a quick step would prevent many falls. It has found stepping speed to the different directions declines with aging and are lesser for fallers than for nonfallers [3].

Modified four square step test (mFSST) was developed to assessing fall risk and dynamic balance by measuring time while participants stepping in multiple directions but its reliability has not been investigated in patients undergoing rTKA.

Objectives: The aims of this study were to determine the test-retest reliability and the minimal clinically important change (MCID) of the mFSST in patients with rTKA.
Methods: mFSST administered on 22 patients undergoing rTKA. mFSST is performed by using tapes to make one horizontal and one vertical line like a cross to create 4 quadrants. Patients' performances were timed as patients were successfully stepping clockwise and counter-clockwise while avoiding touching on tapes, turning their body or losing balance. Two trials performed and patients rested between trials and were encouraged to rest as often as they required to prevent fatigue.

Results: ICC_{w1} for mFSST was 0.83. The standard error of measurement and MCID were 0.67 and 185 respectively (95% confidence level).

Conclusion: The mFSST has a good test-retest reliability in patients with rTKA. It is a reliable and responsive tool for measuring fall risk, dynamic balance and mobility. The mFSST is an excellent measure of gait variability, stepping in multiple directions and dynamic balance, also can easily identify real clinically important changes in patients with rTKA in simple environments and minimal equipment.

References:

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2020-eular.5494

AB0884

METABOLIC UNHEALTHY PHENOTYPE OF OBESITY IN PATIENTS WITH KNEE OSTEOARTHRITIS: THE EFFECTIVENESS OF ORLISTAT.

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Background: Obesity is an important socio-medical problem of mankind. Since the number of obese people in the world is increasing by about 1% per year, the immediate prospects do not look optimistic. One of the important risk factors for the development and progression of osteoarthritis (OA) is the metabolically unhealthy phenotype of obesity (MUO). Metabolically unhealthy phenotype of obesity is accompanied by a violation of lipid and carbohydrate metabolism, a violation of cytokine regulation. An important step in the treatment of patients with obesity and unhealthy phenotype of obesity, which is accompanied by a violation of lipid and carbohydrate metabolism, is the use of complex therapy using orlistat (an intestinal lipase inhibitor) in patients with obesity and unhealthy phenotype of obesity using orlistat (an intestinal lipase inhibitor) in simple environments and minimal equipment.

Objectives: To evaluate the effectiveness of complex therapy of metabolic unhealthy phenotypes of obesity using orlistat (an intestinal lipase inhibitor) in the clinical manifestations of knee OA, dynamic markers of lipid and carbohydrate metabolism, dynamic CRP and leptin.

Methods: The study included 50 female patients with knee OA (26.2%) patients with HOA enrolled in 43 centers in Russia. The mean age of enrolled patients (50% of the total sample size) had completed the first follow-up visit (Week 16-24 after the start of treatment).

Results: The study group included 406 (73.8%) patients with KOA and 144 (26.2%) patients with HOA enrolled in 43 centers in Russia. The mean age of the patients was 61.1 years; most patients were women (88.7%). The predominant risk factors for OA were non-genetic causes (excess weight, hormonal disorders, malformations of bones and joints, joint operations) (52.8% of patients), exogenous risk factors (professional activity, trauma, sports) and hereditary diseases of bones and joints were reported in 15.5% and 4.1% of patients, respectively. Interim analysis showed clinically significant improvement in each of the KOOS and HOOS subscales at 4-6 months after the start of treatment. In patients with KOA, the mean score increase was 15.7 for the Pain subscale, 14.6 for the Quality of Life subscale, 13.8 for the Physical function (KOOS-PS), and 11.7 for the Symptoms subscale. The incidence of drug-related AEs was low, and the nature of AEs was consistent with known safety profile of GH and CS combination.

Conclusion: The results obtained at 4-6 months after the start of treatment demonstrate clinically significant reduction of frequency and intensity of pain and other OA symptoms, as well as improvement of functions in daily living and quality of life in patients with KOA or HOA after the first course of treatment with GH + CS capsules. The majority of patients (72.5%) were satisfied with the treatment. The incidence of drug-related AEs was low, and the nature of AEs was consistent with known safety profile of GH and CS combination.

References:

AB0885

EFFECTIVENESS AND SAFETY OF GLUCOSAMINE AND CHONDROITIN COMBINATION IN PATIENTS WITH KNEE AND HIP OSTEOARTHRITIS: INTERIM ANALYSIS RESULTS OF AN OBSERVATIONAL STUDY.

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Background: Combined treatment with oral glucosamine hydrochloride (GH) and chondroitin sulfate (CS) was shown to be efficient for pain relief and function improvement in osteoarthritis patients with moderate to severe knee pain [1-2].

Objectives: To investigate demographic and clinical characteristics, changes in pain, functions of daily living, quality of life and treatment satisfaction of patients with knee osteoarthritis (KOA) or hip osteoarthritis (HOA) receiving long-term treatment with oral GH and CS combination in routine clinical practice.

Methods: An open-label, multicenter, observational prospective study is being conducted in the Russian Federation. Patients of both sexes with KOA or HOA (Kellgren and Lawrence grades I-III) who receive GH 500 mg+CS 400 mg capsules three times a day for the first 3 weeks of treatment, then twice daily, are included in the study. The interim analysis has been conducted after the first 65 enrolled patients (50% of the total sample size) had completed the first follow-up visit (Week 16-24 after the start of treatment).

Results: The study group included 406 (73.8%) patients with KOA and 144 (26.2%) patients with HOA enrolled in 43 centers in Russia. The mean age of the patients was 61.1 years; most patients were women (88.7%). The predominant risk factors for OA were non-genetic causes (excess weight, hormonal disorders, malformations of bones and joints, joint operations) (52.8% of patients), exogenous risk factors (professional activity, trauma, sports) and hereditary diseases of bones and joints were reported in 15.5% and 4.1% of patients, respectively. Interim analysis showed clinically significant improvement in each of the KOOS and HOOS subscales at 4-6 months after the start of treatment. In patients with KOA, the mean score increase was 15.7 for the Pain subscale, 14.6 for the Quality of Life subscale, 13.8 for the Physical function (KQOS-PS), and 11.7 for the Symptoms subscale. The percentage of patients who rated the pain frequency as ‘never’ or ‘monthly’ increased from 34% to 60%. Most patients (89.1%) were receiving the medicinal product for ≥3 months. Treatment-related AEs were reported in 16 (3.0%) patients and mainly included gastrointestinal tract disorders (12 (2.2%) patients).

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2020-eular.6292