

dyspepsia, 10.8% type 2 diabetes mellitus, 5.2% ulcer history, 2.1% chronic kidney disease. All patients received aceclofenac at a dose of 200 mg/d. Pain at movement was determined on a 10-cm VAS. The number of patients with severe pain (≥ 6 cm by VAS), number of patients with pain reduction $\geq 50\%$ and number of patients continuing treatment were evaluated. The assessment was carried out 2 weeks, 3, 6, 9 and 12 months after the start of therapy. Adverse events were noted at each visit.

Results: The mean pain severity at baseline, after 2 weeks, 3, 6, 9 and 12 months was 6.5 ± 1.2 ; 4.8 ± 1.4 ; 3.2 ± 1.4 ; 2.6 ± 1.4 ; 2.2 ± 1.1 ; 1.4 ± 1.1 cm VAS ($p < 0.05$). The number of patients with severe pain (≥ 6 cm by VAS) decreased from 77.8% to 24.9%, 2.9%, 2.3%, 0.9% and 0%. The number of patients with pain reduction $\geq 50\%$ was 12.0%, 65.1%, 81.0%, 88.5% and 84.0%. The number of patients continuing treatment was 100%, 80.2%, 79.4%, 75.1% and 53.3%. Adverse events were observed in about 30% of patients, mainly mild or moderate dyspepsia (11.1%–23.3%) and arterial hypertension (7.1%–10.9%). No serious complications were recorded.

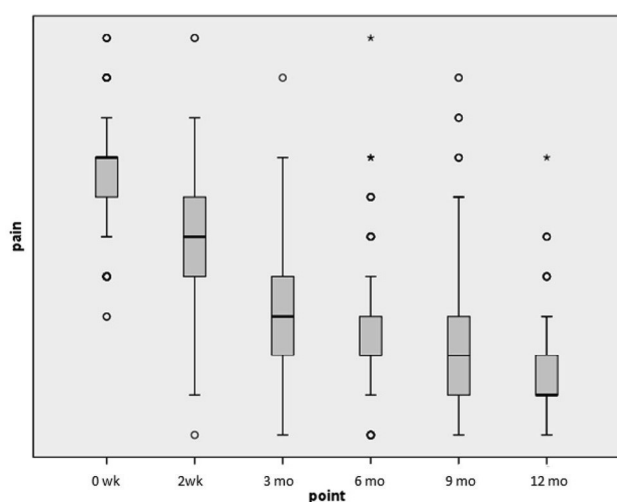


Figure. Dynamics of pain at movement

Conclusion: Approximately half of patients (53.3%) with OA require long-term NSAIDs during 1 y of follow-up in real clinical practice. Aceclofenac is effective and well tolerated and can be used for long-term pain control in patients with OA.

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BENCHMARKING OF THE REMS TRANSABDOMINAL SCAN AGAINST BIOELECTRICAL IMPEDANCE ANALYSIS (BIA) FOR THE ASSESSMENT OF BODY COMPOSITION

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Objective: An accurate diagnosis of the nutritional status, including malnutrition and obesity, is needed in the clinical routine to assign the best treatment option to the patient. Although bioelectrical impedance analysis (BIA) is commonly used for the assessment of body composition, ultrasound (US) imaging is gaining attention thanks to its noninvasiveness and user-friendly usage for the patient. The aim of the present study is to determine the accuracy of an innovative

transabdominal US technique, called radiofrequency echographic multispectrometry (REMS), in comparison to BIA for the assessment of body composition.

Methods: A total of 151 patients, including males and females aged between 30–60 y, underwent the body mass measurement by transabdominal REMS and BIA. Both body fat percentage (BFP) and basal metabolic rate (BMR) were measured in all subjects.

Results: BIA-measured median BFP yielded 33.2% (interquartile range [IQR]: 28.9 to 40.3%), which did not differ from the REMS-measured median BFP of 32.7% (IQR: 28.5 to 39.4%), with $p = 0.8$. Similarly, BIA-measured median BMR was 1386.0 kcal/d (IQR: 1292.3 to 1504.3 kcal/d), whereas REMS-measured median BMR was 1389.0 kcal/d (IQR: 1293.0 to 1515.0 kcal/d), with $p = 0.8$.

Conclusion: REMS technology has shown the high capacity to accurately evaluate the body composition alternatively to the standard BIA technology in a clinical setting.

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ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING IN THE FRACTURE LIAISON SERVICE

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Objective: Significant care gap exists for those suffering from fragility fracture and osteoporosis. We reported the effect of our protocol and risk factors on 2-y mortality, falls, and recurrent fractures of a fracture liaison service (FLS) program.

Methods: Our FLS program enrolled patients with incident hip fracture (HF) and untreated vertebral fracture (VF) from both inpatient and outpatient services from 2 hospitals (N = 600).

Different from the traditional statistical analysis, the advanced machine learner XGBoost (eXtreme Gradient Boosting), which integrates multiple tree models and stronger interpretability, was used to identify significant determinants of 2-y mortality, falls, and recurrent fractures.

Results: The mean age for this cohort was 77.5 ± 10.5 y with 72% female. 2-y mortality was 14.2%, fall rate 33.2%, and recurrent fracture rate 6%. The top 5 risk factors of mortality are “To do regular exercise or not”, “Have ever hip fracture”, “Self-pay for osteoporosis drugs”, “Self-care of EQ-5D-5L”, “Use steroid or not”. The accuracy, precision and recall of the mortality model are 85%, 0.88 and 0.95. The top 5 risk factors of falls are “Parkinson’s disease or not”, “Osteoarthritis or not”, “Self-care of EQ-5D-5L”, “Use osteoporosis drugs or not”, “T-score”. The accuracy, precision and recall of the fall model are 70%, 0.76 and 0.85. The top 5 risk factors of recurrent fractures are “Have ever used osteoporosis drugs in previous 3 months”, “Self-pay for osteoporosis drugs”, “Have ever hip fracture”, “The 10-y probability of a major osteoporotic fracture”, “The 10-y probability of hip fracture”. The accuracy, precision and recall of the recurrent fractures model are 97.5%, 0.97 and 1.0.

Conclusion: This study used XGBoost model to discuss risk factors for mortality, falls, and recurrent fracture among these patients. In the further, we want to crossvalidation results on osteoporosis datasets of bone radiographs. We hope the artificial intelligence and machine learning can be a contribution in developing new methods as diagnostic tools in clinical settings.