week ($p=0.003$) and day 15 ($p=0.01$) after the intervention. However, there was no significant difference between the two groups at day 30, but only a trend ($p=0.08$).

Regarding analgesic treatments, 30% of patients in the sacroplasty group could reduce their analgesics between the time they entered and left hospital. None of the patients in the control group were able to reduce their analgesic treatment over this period. In addition, half of the patients in the sacroplasty group were successful in returning home compared to only one-third of the patients in the conservative treatment group.

Conclusion: In this study, sacroplasty was associated with an early and significant pain relief compared to conservative management in patients with osteoporotic sacral fracture. The procedure is well tolerated and may prevent loss of autonomy in these patients.

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AB0897

BIMODAL DISTRIBUTION OF VERTEBRAL FRAGILITY FRACTURES (VFF) IN A FRACTURE LIAISON SERVICE (FLS). RESULTS OF A COMPARATIVE ANALYSIS OF PATIENTS WITH VFF VERSUS THOSE WITH OTHER FRAGILITY FRACTURES (OFF).

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Background: Fragility fractures (FF) represent a health problem and among them, the VFF. They have worse vital prognosis, are at greater risk of new FF, had higher comorbidity, with clinical manifestations in only 30%-40% of cases. One in 6 women and one in 12 adult males will have a VFF.

Objectives: To analyze the clinical characteristics of FF patients attended in the FLS at Virgen Macarena University Hospital. Compare the sociodemographic and clinical characteristics of VFF patients with those with OFF.

Methods: Design: Prospective cohort. Patients attended in the FLS from May 2018 to November 2019 in a protocolized manner (Openclinica®). Inclusion criteria: a clinical FF in the previous two years. Descriptive statistics: percentages and means with 25th and 75th percentile. Inferential statistic by parametric and nonparametric tests. The project was approved by the Ethics Committee and patients signed consent to participate.

Results: Data from 414 patients with a first FF are analyzed, 101 (25%) with VFF and 313 (76%) with OFF [188 (45%) hip, 66 (16%) distal radius, 32 (8%) humerus and 27 (6%) miscellaneous (pelvis, ribs, tibia)]. All VFFs analyzed had clinical symptoms and the number of fractured vertebrae was 2 (1-3). In 28 (37%) were FF of dorsal vertebrae, at 25 (33%) lumbar and 23 (30%) dorsal and lumbar. Comparative analysis showed differences in age VFF 71 (62-77) vs OFF 76 (66 – 83) years, $p=0.0003$. It highlighted a bimodal distribution according to age, with a peak incidence of 55 to 68 years and another between 75-80 years (Graph). Referral unit to FLS: VFF Rheumatology (42%) and/or Traumatology Emergency Room (44%) vs OFF Internal Medicine (45%) and General Traumatology Unit (38%), $p=0.0001$. There were also differences in the treatment with teriparatide (VFF 20% vs OFF 4%); zoledronate (VFF 6% vs OFF 3%) and alendronate (VFF 44% vs OFF 63%, $p=0.0001$); days of immobilization (VFF 30 (0 - 60) vs OFF 10 (0 - 30), $p=0.01$); they have greater independence to carry out activities of daily life (Barthel Scale) VFF 95(81 – 100) vs OFF 80 (60 – 95), $p=0.00001$; increased clamping force of hands 18 (12 - 20) vs 12 (8 - 18) mmHg, $p=0.001$, and lower risk of falls (J D Downton Scale) (VFF 43% vs OFF 60%, $p=0.01$). While the number of relevant comorbidities was higher in VFF 3 (1 - 5) vs OFF 2 (1 - 4) it was not statistical, $p=0.3$. The use of GCC was risky for VFF ($n=13$, 13%) vs OFF ($n=17$, 5%), $p=0.01$ and RR (95%CI) 2.3 (1.01 – 5.3) and not for other drugs (GnRH inhibitors, aromatase inhibitors or chemotherapy). No differences in sex were found (VFF 80%- vs OFF 80% women, $p=0.9$), previous FF history (9% vs 12%, $p=0.2$), secondary OP (16% vs 21%, $p=0.1$); percentage of patients with OP by femoral neck DEXA (VFF 35% vs 42%, $p=0.2$) or by lumbar spine DEXA (VFF 36% vs OFF 34%, $p=0.8$).

Conclusion: VFF have a bimodal age-based distribution, usually occurring in younger patients, with a higher degree of independence and muscle strength and lower risk of falls, although they are associated with longer duration of immobilization, compared to OFF. In our cohort, VFFs affect 2 or more vertebrae and they are commonly treated with parenteral osteoporotic drugs. The use of glucocorticoids doubled the risk of developing a VFF, these findings are similar to those of others published cohorts.

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AB0898

IMPACT OF BIOLOGICAL AGENTS, ORAL GLUCOCORTICOIDS, OR BOTH ON THE EFFICACY OF DAILY TERIPARATIDE TREATMENT FOR OSTEOPOROSIS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Daily teriparatide (dTP) strongly affects bone metabolism in patients with rheumatoid arthritis (RA), resulting in increased bone mineral density (BMD). We reported the 2-year results of dTP treatment for osteoporosis (OP) in patients with RA in EULAR2014 [1]. Drugs affecting bone metabolism, such as biological agents (BIOS) and glucocorticoids (GCs), are frequently administered to patients with RA in addition to dTP in daily clinical practice. Although dTP increases bone turnover, BIOS reduce osteoclast activity and GCs decrease bone turnover. We reported the effects of GCs or BIOS on the efficacy of dTP in EULAR2015 [2]. The present retrospective study investigated the effects of GCs or BIOS on the efficacy of dTP in patients with RA using a larger patient cohort.

Objectives: To evaluate the effects of BIOS, GCs, or both on the efficacy of dTP treatment for OP in patients with RA.

Methods: The study included 56 female patients who had completed 2 years of dTP treatment. We separated these patients into four groups according to their treatment regimen at dTP initiation: B(–)G(–), included patients who did not receive BIOS or GCs ($n=14$); B(+)G(–), included patients treated only with BIOS ($n=8$); B(–)G(+), included patients treated only with GCs ($n=24$); and B(+)G(+), included

patients treated with both BIOs and GCs ($n = 10$). We determined baseline (BL) characteristics, % changes in BMD in the lumbar spine (LS) and total hip (TH) from BL to 24 months, and % changes in serum bone turnover markers (BTMs), such as BAP, P1NP, NTX, and TRACP-5b, from BL to 6 months after dTP initiation. Dunnett's test was used for comparisons between B(-)G(-) and other groups.

Results: The mean ages of the B(-)G(-), B(+)(G(-), B(-)G(+), and B(+)(G(+) groups at BL were 70.0, 65.5, 69.6, and 71.5 years, whereas the mean duration of RA in these groups were 15.4, 20.8, 69.9, and 71.5 years, respectively. Furthermore, the mean baseline DAS28-CRP levels in these groups were 2.8, 2.2, 2.8, and 2.3. The mean LS-BMD (g/cm^2) at BL were 0.795, 0.819, 0.826, and 0.853, whereas the mean TH-BMD at BL were 0.619, 0.570, 0.601, and 0.629, respectively. The mean % changes in LS-BMD at 24 months were 15.5%, 12.7%, 11.9%, and 8.1%, respectively (Fig 1A). There were no significant differences between B(-)G(-) and other groups. The mean % changes in TH-BMD at 24 months in the B(-)G(-), B(+)(G(-), B(-)G(+), and B(+)(G(+) groups were 6.4%, 5.3%, 4.4%, and 1.5%, respectively (Fig 1B). A significant difference was observed between the B(-)G(-) and B(+)(G(+) groups ($p = 0.03$). The % changes in BTMs in the B(-)G(-), B(+)(G(-), B(-)G(+), and B(+)(G(+) groups were as follows: BAP, 90.5%, 44.0%, 29.5%, and 87.7%; P1NP, 374.1%, 338.2%, 225.9%, and 640.0%; NTX, 75.2%, 106.6%, 42.5%, and 80.5%; and TRACP-5b, 75.8%, 43.85, 20.4%, and 122.3%, respectively. No significant differences were observed in the changes in BTMs among the groups.

Figure 1. % Change of Bone Mineral Density from Baseline to 24 Months
A: Lumbar spine, B: Total hip
BIOs: biological agents, GCs: glucocorticoids

Conclusion: This study suggested that concomitant use of BIOs and GCs inhibited the increase in BMD induced by dTP treatment in patients with RA, particularly TH-BMD. Although BTM analysis revealed no statistical significance, GCs tended to decrease the % change in BTMs.

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AB0899

TREATMENT STATUS OF PATIENTS WITH GLUCOCORTICOID-INDUCED OSTEOPOROSIS IN THE AKITA ORTHOPEDIC GROUP ON RHEUMATOID ARTHRITIS REGISTRY

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Background: Glucocorticoids (GC) have potent anti-inflammatory and immunosuppressive effects and are used to treat a variety of diseases. However, GC are associated with several adverse effects. Glucocorticoid-induced osteoporosis (GIO), a bone metabolism disorder, accounts for 25% of the side effects associated with GC, and long-term use of these agents leads to fragility fractures in 30 to 50% of patients [1]. GC are frequently used to treat rheumatoid arthritis (RA). No report on the current treatment status for glucocorticoid-induced osteoporosis (GIO) has been published following the publication of the new guidelines for the management and treatment of GIO issued by the Japanese Society for Bone Mineral Research provided in 2014 (Figure 1) [2].

Objectives: The present study aimed to investigate the current treatment status of GIO patients in the Akita Orthopedic Group on Rheumatoid Arthritis (AORA) registry.

Methods: This retrospective, multicenter study included 683 patients (138 men, 545 women) with fracture risk factor scores ≥ 3 based on the new guidelines who were in the AORA registry. We examined patient characteristics, differences in patient backgrounds between treated and non-treated groups.

Results: There were no significant differences in mean GC dose between men and women (4.0 ± 2.3 mg/day vs 3.6 ± 1.8 mg/day, $p = 0.08$). The mean disease duration of RA in women was significantly longer than in men (180.2 ± 140.2 months vs 143.8 ± 129.6 months). Untreated GIO patients were significantly more likely to be men and younger. The univariate analysis showed that clinic visits, male sex, younger age, and longer disease duration were significant risk factors for lack of therapeutic intervention for GIO. Multivariate analysis showed that being treated in a clinic, male sex, and younger age were significant risk factors for lack of therapeutic intervention for GIO.

Conclusion: Our results emphasize the importance of considering the prevention and treatment of GIO in all patients with RA, including younger and male patients, who have lower intervention rates.

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AB0900

FREQUENCY OF LOCAL COMPLICATIONS AFTER TOTAL HIP ARTHROPLASTY IN PATIENTS WITH RHEUMATIC DISEASES.

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Background: Surgical treatment of patients with rheumatic diseases (RD) is associated with an increased risk of complications. It is caused by presence of an inflammatory process, osteoporosis, reduced physical activity, severity of functional impairment, long-term glucocorticoid therapy, biological and disease-modifying antirheumatic drugs. All this provides elongated wound healing period, the development of infectious complications and increased risk of periprosthetic fractures.

Objectives: To study a frequency of local complications of total hip arthroplasty (THA) in patients with inflammatory RD and osteoarthritis (OA).

Methods: We analyzed 1591 THA, which were performed to RD patients between 2000 and 2019 years.

Results: We performed 882 arthroplasties in patients with inflammatory RD, which consisted of patients with rheumatoid arthritis (RA), systemic lupus erythematosus (SLE), juvenile rheumatoid arthritis (JRA), ankylosing spondylitis (AS), systemic sclerosis (SSD), and also 709 operations in OA patients. Local complications after THA were 120 (7.54%), of these 83 (9.41%) in patients with inflammatory RD and 37 (5.22%) in OA patients.

We revealed a significantly greater number of complications in patients with inflammatory RD ($p < 0.005$).

Conclusion: Inflammatory RD (RA, SLE, JRA, AS, SSD) patients have local complications after THA (9.41%) 1.8 times more often than OA patients (5.22%). It shows that the operative treatment of patients with RD requires a special approach, management and careful treatment of the bone and surrounding tissues during surgery.

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