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 ($4.0 \pm 2.3 \text{ mg/day}$ vs $3.6 \pm 1.8 \text{ mg/day}$, $p = 0.08$). 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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