found to be significantly increased only after 3 months of TNF- α blocking therapy compared to baseline. No significant changes during follow-up were found for collagen resorption marker sCTX Z-score. Collagen formation marker PINP Z-score was significantly increased after 3 and 6 months as well as 2 years of TNF- α blocking therapy. Bone mineralization marker BALP Z-score was significantly increased at all time points up to and including 2 years and returned to baseline levels during 4 to 8 years of TNF- α blocking therapy (Figure 1).

Conclusion: In this subgroup of AS patients with established and active disease responding to TNF- α blocking therapy, we observed that the bone turnover balance favored bone formation during the first years of TNF- α blocking therapy, which corresponds to previously reported improvement in bone mineral density, especially at the lumbar spine.¹ New finding of our study is that after 8 years of treatment, markers of bone resorption, formation, and mineralization were all comparable to baseline values.

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Figure 1. The effect of 8 years of TNF- α blocking therapy on bone formation markers OC (A), sCTX (B), PINP (C) and BALP (D) in patients with AS (n=37). Z-scores were calculated to correct for the effect of age and gender on bone turnover. Box-and-whisker plots (Tukey): boxes indicate medians with interquartile ranges, • indicates mean; whiskers indicate 1.5 times interquartile distances; * indicate outliers. * indicate p-value of <0.05 and ** indicate p-value of <0.01.

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THU0403 THE EFFECT OF SPINAL STABILIZATION EXERCISES ON SPINAL CURVES DIAGNOSED WITH ANKYLOSING SPONDYLITIS

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Background: Postural deformities can cause changes in spinal curvatures patients with ankylosing spondylitis. In these patients, preventive and therapeutic approaches are needed for spinal deformities (1). Positive effects of the spinal stabilization exercises are manifested in reducing pain, maintaining mobility, improving posture, increasing aerobic capacity and improving quality of life (2).

Objectives: The aim of this study is to investigate the effect of stabilization exercises on spinal curvatures in s ankylosing spondylitis patients.

Methods: Twenty-eight ankylosing spondylitis patients (25 females, 3 males) with a mean age of 30.87 $\pm$ 9.13 years were included in the stabilization exercises program. The patients performed spinal stabilization exercises two days a week for six weeks. Stabilization training includes training of deep muscles providing diaphragmatic breathing, neutral spine position control training and local motor control, and motor control training of global muscles, dynamic stabilization exercises and

strengthening training. Thoracic kyphosis and lumbar lordosis curvature of patients in an upright position were evaluated with Spinal Mouse (SM) device before and after therapy program. The SM device is a reliable, valid, safe, quick method that can be used in the clinics and researches of the adults with no side effects.

Results: At the end of 6 weeks of treatment, there was a decrease in the total curvature degree of the thoracic vertebrae in the sagittal axis ($p=0.026$). No significant difference was found in the lumbar region ($p=0.109$).

Table 1. Differences of Total Curve Degrees

	Pre-Exercises Program Mean $\pm$ SD	Post-Exercises Program Mean $\pm$ SD	z	p
Thoracic Total Curve Degrees	43.50 $\pm$ 8.11	42.57 $\pm$ 7.70	-2.232	*0.026
Lumbar Total Curve Degrees	-26.42 $\pm$ 8.46	-23.77 $\pm$ 7.15	-1.604	0.109

*p<0.05, SD: Standart Deviation

Conclusion: Stabilization exercises are effective in reducing thoracic kyphosis in patients with ankylosing spondylitis patients. The use of these exercises in treatment programs will contribute significantly to improving spinal alignment and preventing postural deformities.

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Crystal diseases, metabolic bone diseases other than osteoporosis

THU0404 INFLUENCE OF URATE TRANSPORTOSOME FOR HYPERURICEMIA AND GOUT

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Background: Gouty arthritis, caused by a persistent increase in serum uric acid level, can be caused by underexcretion of uric acid by uric transporters; however, the effects of allelic variants of urate transportosome are yet to be fully determined.

Objectives: In this study we investigated the effects of 10 genes of urate transportosome in a cohort of patients with primary hyperuricemia and gout.

Methods: The cohort consisted of 114 hyperuricemic individuals; 207 gout patients; and 274 normouricemic controls.

Results: We identified 39 non-synonymous allelic variants in the 10 genes of urate transportosome in hyperuricemia/gout cohort. For 22 variants, a European MAF <0.0001 is documented. From the total of 39 identified variants we selected 23 variants for functional characterization based on a) finding of a newly identified variant, b) MAF variant was significantly different in the group of patients with hyperuricemia/gout, c) with high probability, in silico predictions showed devastating influence of variant on protein function.

Conclusion: Although further analyzes are needed to elucidate the contribution of urate transportosome to urate homeostasis, our results clearly show that ABCG2 transporter analysis has significant clinical potential. Of the identified non-synonymous allelic variants of the urate transportosome, rs2231142 (p.Q141K) in the ABCG2 gene, proved to be the most clinically significant on the age onset ($P < 0.0002$, Kruskal-Wallis test).

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