AB0477 EFFECT OF ANTI-TNF THERAPY ON BONE MINERAL DENSITY IN ANKYLOSING SPONDYLORTHITIS

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Background: Osteoporosis is common in spondyloarthritis, due to reduced spinal mobility, and inflammation. Anti-inflammatory treatments have a beneficial effect on the bone, and there is a significant increase in bone density during treatment with anti-TNF alpha.
Objectives: to study bone mineral density in patients with ankylosing spondyloarthritis (AS) treated with anti-TNF alpha.
Methods: This is a retrospective descriptive study of patients with AS meeting the modified New York criteria. Bone mineral density, assessed by dual energy x-ray absorptiometry (DXA), of AS patients treated with anti-TNF alpha was compared to that of a control group of AS patients not treated with anti-TNF alpha.
Inclusion criteria:
- Male patients
- Patients who do not have an abnormality disrupting phosphocalcic and bone metabolism
- For Patients on anti-TNF alpha: the treatment must be received for more than 6 months
Results: A total of 22 patients were included, including 11 patients on anti-TNF alpha and 11 patients not on anti-TNF. The mean age (standard deviation) was 28 (± 7.2) years and 41 (± 14.8) in the cases and controls respectively. The mean body mass index in the AS group on anti-TNF was 22.16 kg / m2 and in the control group was 19.64 kg / m2. In the AS group on anti-TNF alpha, the mean bone mineral density of the spine was 1.092 g / cm2 (mean T score = -0.63) and that of the femoral neck, the mean bone mineral density was 0.888g / cm2 (mean T score = -1.04). In the control group, the mean bone mineral density of the spine was 0.959 g / cm2 (mean T score = -1.91) and the mean bone mineral density of the femoral neck was 0.774 g / cm2 (mean T score = -1.99). Bone mineral density in the spine and cervix was higher in the group receiving anti-TNF alpha (p = 0.09, p = 0.173 respectively)
Conclusion: Our study shows the increase, although not statistically significant, in bone mineral density in AS patients receiving anti-TNF alpha agents compared to controls. Our results agree with those of the literature which support the bone protective effect of anti-TNF alpha. The non-significant difference can be explained by the delay in the introduction of biotherapy at the advanced stage of the structural evolution of AS. The best solution is to start TNF inhibitors at the early inflammatory stage of AS.
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AB0478 IN PREVIOUSLY BIOLOGIC-NAÏVE RHEUMATIC PATIENTS WITH DRUG INDUCED LUPUS SECONDARY TO A FIRST ANTI-TNF THERAPY, IS IT SAFE TO SWITCH TO A SECOND ANTI-TNF-α AGENT?

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Background: Drug-induced lupus erythematosus (DILE) secondary to anti-TNF-α agents results from an immunogenicity phenomena not yet fully understood and is a rare condition. Withdrawal of anti-TNF- α therapy usually leads to total resolution of symptoms, however sometimes immunosuppression is needed. It is not clear if this condition is drug specific or class related. Therefore, there are doubts about the safety of switching to a second TNF inhibitor: will a further anti-TNF-α agent increase the risk of DILE recurrence?
Objectives: To analyze the outcomes in patients with DILE secondary to an anti-TNF-α agent that switch to a second anti-TNF-α agent.
Methods: We performed a retrospective analysis of patients with spondyloarthritis, psoriatic arthritis and rheumatoid arthritis from our University Hospital, who developed DILE secondary to an anti-TNF-α agent as a first biologic and switch to a second anti-TNF-α agent. Because specific criteria for the diagnosis of DILE have not been established, DILE diagnosis was considered when a temporal relationship between clinical manifestations and anti-TNF alpha treatment was found and ACR/EULAR 2019 classification criteria for SLE were fulfilled. Clinical and laboratorial features and outcomes were collected from the Portuguese Rheumatic Diseases Register (Reuma.pt) and medical records.
Results: Six of 617 patients developed DILE secondary to anti-TNF-α agents (2 secondary to etanercept, 2 to adalimumab and 2 to infliximab). These patients had total resolution of symptoms and autoantibodies (ANA and anti-DNAds), induced by the therapy, disappeared after withdrawal of the anti-TNF-α agent implied.
Afterwards, 4 of these 6 patients switched to a second anti-TNF-α agent: 1 to etanercept, 1 to certolizumab, 1 to adalimumab and another to golimumab. The time interval between the two therapies was 2,0 ± 0,8 months. Regarding the outcomes, in all four patients, no DILE recurrence or autoantibodies induction recurrence was observed. These patients have a good response to the new biotherapy, without side effects reported, and a significant clinical improvement was observed.
Conclusion: Our study results are in agreement with the literature described before. It seems that exist a low rate of DILE recurrence with an alternative anti-TNF-α agent. Thus, this condition seems to be drug specific rather than class related. Therefore, it seems secure to use a second anti-TNF-α agent, even in a short period of time after DILE development. There is no evidence about the best or securest second TNF inhibitor, so any anti-TNF-α agent can be prescribed. A carefully monitoring of symptoms of relapse should be ensured. In conclusion, DILE secondary to a TNF inhibitor should not be an absolute contraindication to the use of a subsequent anti-TNF-α agent.
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AB0479 LONGTERM RETENTION RATE OF CERTOLIZUMAB PEGOL IN AXIAL SPONDYLOARTHRITIS IS HIGHER: DATA FROM TURKBIO

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Background: Choosing the best treatment strategy for a patient is one of the most difficult issues in modern rheumatology, as there are various factors affecting drug therapy in chronic diseases, such as efficacy, safety, and compliance. Physicians take care of long-term retention rate and responses for discontinuation of candidate drug.
Objectives: The purpose of this study to assess the drug survival of certolizumab pegol (CZP) in patients with axial spondyloarthritis (ax-SpA) and to identify the predictors and reasons for discontinuation.
Methods: Data on patient characteristics, demographics, diagnosis, duration of disease, treatment and outcomes have been collected since 2011 in Turkish Biologic (TURKBIO) Registry. By the end of December 2020, 410 ax-SpA patients received CZP and were included. Kaplan Meier plot was used for drug survival analysis. Cox regression analysis was performed to evaluate the predictor associated with drug survival.
Results: During the median 54 months follow-up, 92 (22.4%) patients discontinued the CZP treatment. The reasons for discontinuation: ineffectivity was 58.7% (n=54), adverse events was 6.5%, pregnancy was 3.3% and surgery was 4.3%. The baseline characteristics of patients continue with CZP and discontinuation due to ineffectiveness were shown in the Table 1. Patients who discontinued CZP had higher HAQ, BASFI and BASDAI values. Moreover, they were more co-treated with NSAIDs and csDMARDs. At the month 36, retention rate of CZP was 71.5% in patients with ax-SpA (Figure 1).

Conclusion: Real life experience from this nationwide TURKBIO registry show higher long-term retention rate of CZP in ax-SpA. Higher baseline disease activity and functional limitation predict discontinuation of CZP. Adding NSAIDs and csDMARDs to the treatment of the patient with poor prognosis cannot increase retention rates.

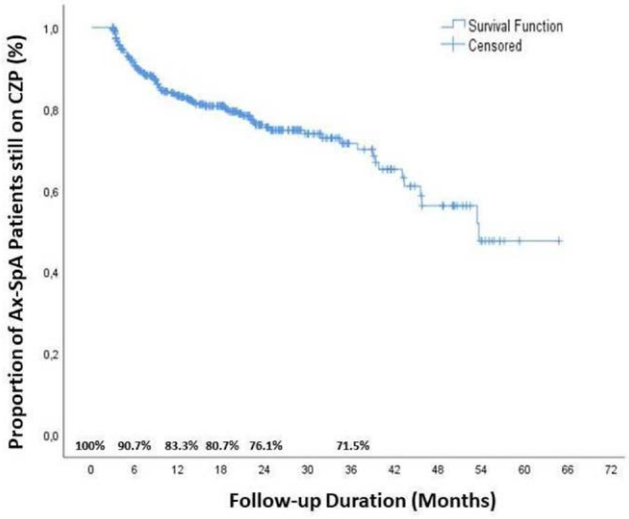

Figure 1 Drug survival of CZP in patients with Ax-SpA

Table 1. Baseline characteristics of ax-SpA patients who continue and discontinue CZP

		All patients (n=410)	Continue to CZP (n=318)	Discontinue to CZP* (n=54)	p
Females, n (%)		185 (49,7)	157 (49,4)	28 (51,9)	0,736
Age, years		42 (34-49)	41 (34-49)	45 (34-54)	0,064
Symptom duration, years		11 (7-17)	11 (6-16)	12 (8,5-20)	0,054
HLA-B27, n (%)		150 (63,8)	129 (64,5)	21 (60)	0,609
Previous bDMARDs, n (%)	**Adalimumab**	54 (14,5)	42 (13,2)	12 (22,2)	0,082
	Etanercept	**53 (14,2)**	**40 (12,6)**	**13 (24,1)**	**0,025**
	Golimumab	11 (3)	7 (2,2)	4 (7,4)	0,060
	Infliximab	39 (10,5)	35 (11)	4 (7,4)	0,425
Co-treated drugs, n (%)	**NSAID**	**206 (55,4)**	**169 (53,1)**	**37 (68,5)**	**0,036**
	Methotrexate	**35 (9,4)**	**22 (6,9)**	**13 (24,1)**	**<0,001**
	Sulphasalazine	**61 (16,4)**	**40 (12,6)**	**21 (38,9)**	**<0,001**
	Leflunomide	**5 (1,3)**	**2 (0,6)**	**3 (5,6)**	**0,023**
ESH, mm/h		21,5 (10-37)	21 (10-37)	23 (10-34)	0,999
CRP, mg/dl		7 (3-20)	7 (3-20)	7 (3-22)	0,727
HAQ		**0,63 (0,25-0,94)**	**0,5 (0,25-0,88)**	**0,75 (0,38-1,25)**	**0,009**
BASFI		**21 (7-45)**	**20,5 (6-41)**	**31 (13-58)**	**0,011**
BASDAI		**30,5 (13-52)**	**30 (12-50)**	**43 (23-61,5)**	**0,002**
ASDAS		2,7 (1,8-3,7)	2,7 (1,8-3,6)	2,9 (2,3-4)	0,062

*Discontinue due to ineffectivity.

REFERENCES:

[1] Iannone F, et al. Effectiveness of Certolizumab-Pegol in Rheumatoid Arthritis, Spondyloarthritis, and Psoriatic Arthritis Based on the BIOPURE Registry: Can Early Response Predict Late Outcomes? Clin Drug Investig. 2019;39(6):565-575.

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AB0480

INFLUENCE OF ANTI TNF THERAPIES AND HYPERHOMOCYSTEINEMIA ON BONE MINERAL DENSITY IN ANKILOSING SPONDYLITIS PATIENTS

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Background: Ankylosing spondylitis (AS) is a chronic inflammatory disease associated with an important risk factor of osteoporosis. A high serum level of Homocysteine (Hcy) has been recently recognized as a risk factor for osteoporosis and osteoporotic fractures. Treatment with TNF-α blockers might influence bone metabolism and prevent structural bone damage in AS.
Objectives: The aim of the study was to evaluate the influence of anti-TNF therapies and hyperhomocysteinemia on bone mineral density in AS patients.
Methods: In our retrospective study were enrolled 73 AS patients with anti TNF-α therapies (29 Adalimumab 40mg/2weeks, 24 Etanerceptum50mg/week, 20 Infliximabum5 mg/kg/8 weeks) and 45 AS patients non anti TNF-α therapies. All patients included in this study met the modified New York criteria. The current medications used by the non anti TNF-α therapies patients were nonsteroidal anti-inflammatory drugs.
We used Dual energy *x* ray absorptiometry (DXA) method for measuring bone mineral density (BMD). Osteoporosis is defined as a T score of ≤ −2.5 SD, according to the WHO criteria. BMD of the hip and lumbar spine (L1-L4) was determined at baseline and after 6 months. Hcy concentrations were measured by using a chemiluminescence immunoassay method. The normal serum Hcy level is considered to be below 15mmol/L. In both group we followed the activities disease (C reactive protein-CRP, eritrocytes sedimentation rate-ESR, Bath ankylosing spondylitis disease activity index-BASDAI score) and determined vitamin D3 level.
All parameters were determined at baseline and after 6 months.
Results: The mean age of study group1 was 47.4±11.1 years and 42±9,8year in group2. The mean disease duration was 11.9 ± 6.1 years. 83,5% of patients were HLA-B27 positive in group1 and 71,1% in group2.
BMD measurements revealed more severe osteoporosis in patients with positive HLA-B27 in both groups at baseline. After 6 months in group1 BMD increased by 0.4% at lumbar spine and 0.1% in the hip and in group2 decreased by 0.9% and 0.6% in the same sites. No significant differences between type of anti-TNF therapies and BMD. In group 1, HLA-B27 positive status was positive correlated with decrease BMD(p=0.001) after 6 months. Hcy levels were found significantly increased (14.8 ± 3.8 mg/mL vs. 12.4 ± 4.2 mg/mL; P < 0.001) at baseline in both groups. Serum levels of Hcy were inversely correlated to lumbar spine BMD (*p*< 0.005) and femur neck BMD(p=0,001) after 6 months in group1. At baseline the mean level of 25-hydroxyvitamin D_3 was 22.8 ± 14.1 ng/mL in group1 *and* 26.6 ± 12.5 ng/mL in group2. In anti TNF patients group, we found a positive correlation between decrease BMD, low level of 25-hydroxyvitamin D_3 and high level of Hcy(p=0,001) after six months. No correlation was found between BMD and BASDAI score and inflammatory parameters (ESR, CRP).
Conclusion: Bone mineral density measurements revealed more severe osteoporosis in positive HLA-B27 AS patients and hyperhomocysteinemia. Association of low level of 25-hydroxyvitamin D3 and hiperhomocysteinemia is correlated with high-risk fracture in positive HLA-B27 patients. Anti TNF therapies reduce this risk.

REFERENCES:

[1] Kim JI, Moon JH, Chung HW, Kong MH, Kim HJ. Association between homocysteine and bone mineral density according to age and sex in healthy adults. J Bone Metab 2016; 23:129-34.

[2] Fratoni V, Brandi ML. B Vitamins, homocysteine and bone health. Nutrients 2015; 7:2176-92.

[3] Jahn O, Wex T, Klose S, Kropf S, Adolf D, Piatek S, *et al.* Cathepsin K in treatment monitoring following intravenous zoledronic acid. Biomed Rep 2014; 2:915-7.

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