of NSAIDs is characterized by lower pain intensity than as against colchicine or glucocorticoids.

Disclosure of Interests: Maria Chikina: None declared, Maxim Eliseev Speakers bureau: Novartis, Menarini Group, Alium
DOI: 10.1136/annrheumdis-2020-eular.5164

AB0922

BUROSUMAB (ANTI-FGF23 MONOCLONAL ANTIBODY) IN THE TREATMENT OF A PATIENT WITH RECURRENT TUMOR INDUCED OSTEOMALACIA.

C. Crotti¹, F. Zucchi¹, P. Messa², R. Caporali^{1,3}, M. Varenna¹. ¹Gaetano Pini Institute, Dept of Rheumatology, Milan, Italy; ²Unit of Adult Nephrology, Dialysis and Renal Transplant, Foundation Ca' Granda IRCCS Ospedale Maggiore Policlinico, Dept of Medicine, Milan, Italy; ³University of Milan, Dept of Clinical Sciences and Community Health, Milan, Italy

Background: Tumor-induced Osteomalacia (TIO) is a rare paraneoplastic syndrome caused by tumoral overproduction of fibroblast growth factor 23 (FGF23), resulting in hyperphosphaturia, hypophosphatemia and osteomalacia. Surgery is the only curative treatment, but tumor can locally recur, even after years from primary surgery. Furthermore, some tumors cannot be removed by surgery due to their location.

Objectives: To describe a case of a 53-year-old woman affected by recurrent TIO after three surgical attempts of removal treated with Burosumab.

Methods: We describe the case of a 53 years old woman with TIO treated with Burosumab, an anti-FGF-23 monoclonal antibody at present approved for X-linked hypophosphatemic rickets only.

Results: A 46-year-old Caucasian female was referred to our Bone Unit after experiencing several fractures in different sites. She reported being in good health until three years prior consultation. At the time of symptoms onset, she experienced a progressive muscle pain, enabling her to stand for a long period. During imaging evaluation for atraumatic fracture of right great trochanter, the MRI abdomen and ¹⁸FDG-PET-CT showed a metabolic pre-sacral lesion. She unsuccessfully underwent to an exploratory laparotomy of that lesion. Then, she suffered from atraumatic intertrochanteric fracture of right femur, surgically treated, and after 3 months, she had an insufficiency dyaphyseal fracture of the left femur, surgically treated. Furthermore, she experienced several ribs fractures. At the time of first evaluation, lab works showed: serum-Phosphate (PS) 1.2mg/dL (reference range (RR) 2.5-4.5 mg/dL), urinary-phosphate of 24h (PU) 842mg/24h, alkaline phosphatase (ALP) 565 UI (RR<300), 1,25(OH)₂ vitamin D₃ 27 ng/L (RR 25-86.5), PTH 24 (RR<75 pg/mL), intact-FGF-23 117 (RR 25-45 pg/mL), normal serum and 24h-urinary Calcium. Patient underwent to ⁶⁸Ga-DOTATATE-PET-CT that showed a pre-sacral lesion, who was studied with MRI and CT before surgery. In 2013 patient underwent surgical excision of the pre-sacral region. After 18 months of well-being, patient complained worsening of articular pain and muscle weakness, and further ribs fractures. Another ⁶⁸Ga-DOTATATE-PET-CT reported a relapse of the previous pre-sacral lesion (32x12x47mm) with an increase of FGF-23 levels (54.6 pg/mL). Even the subsequent surgery was not able to remove the tumor. Since 2015, patient was maintained in phosphorus supplements and 1,25(OH)₂ vitamin D₃, but PS levels never normalized. We asked for compassionate use of Burosumab and, after ethical committee approval, in September 2019 she was started on Burosumab, at a dose of 30 mg per month (0.3mg/kg). At baseline, she had PS 1.2mg/dL, PU 1874mg/24h, TRP 25.96%. After two months, she improved in pain symptom (VAS reduction from 65 to 12mm), which allow her to walk and stand without crutches. She did not normalize her PS levels (1.3mg/dL), while PU reduced to 1000mg/24h. We titrated Burosumab dose at 40 mg per month (0.6mg/kg) and patient is still under therapy, waiting for next blood works.

Conclusion: This is the first European patient affected by TIO treated with Burosumab. Burosumab could be a promising therapy in the medical treatment of TIO refractory or not eligible for definitive surgery. Further data are needed to standardize the proper dose regimen.

Disclosure of Interests: Chiara Crotti: None declared, Francesca Zucchi: None declared, Piergiorgio Messa: None declared, Roberto Caporali Consultant of: AbbVie; Gilead Sciences, Inc.; Lilly; Merck Sharp & Dohme; Celgene; Bristol-Myers Squibb; Pfizer; UCB, Speakers bureau: Abbvie; Bristol-Myers Squibb; Celgene; Lilly; Gilead Sciences, Inc.; MSD; Pfizer; Roche; UCB, Massimo Varenna: None declared

DOI: 10.1136/annrheumdis-2020-eular.4466

AB0923

DIETARY FACTORS AND TOPHI: A FOOD INTAKE FREQUENCY SURVEY IN CHINESE GOUT PATIENTS

Q. H. Li¹, Y. F. Bi¹, X. H. Lin², H. B. Wang³, C. Y. Wu³, C. Deng¹, J. D. Ma¹, H. W. Lu¹, J. J. Liang¹, L. Dai¹. ¹Sun Yat-Sen Memorial Hospital, Sun Yat-Sen University, Department of Rheumatology, Guangzhou, China; ²Sun Yat-Sen Memorial Hospital, Sun Yat-Sen University, Department of Clinical Nutrition,

Guangzhou, China; ³Zhongshan School of Medicine, Sun Yat-Sen University, Guangzhou, China

Background: Tophi is a cardinal sign of advanced gout. Risk factors of gout are also closely related to the formation of tophi, such as impaired kidney function and serum uric acid (sUA). Several dietary factors, such as alcohol, fructose-containing beverage, red meat, sea foods have been confirmed increasing the risk of gout. Diet patterns vary widely in different countries. Dietary factors' association with tophi formation remain elusive in Chinese gout patients.

Objectives: This study aimed to study whether dietary factors were risk factors for tophi.

Methods: We recruited consecutive gout patients who fulfilled the 2015 Gout Classification Criteria of ACR/EULAR and collected demographic data, gout disease characteristics and comorbidities. Tophi was evaluated by physical examination and/or musculoskeletal ultrasound. All gout patients completed 10-items food intake frequency questionnaire which included red meat, animal offal, seafood, alcohol, fructose-containing beverages, milk and dairy products, coffee, hotpot, slow-cooking soup and tea. Patients were advised to report the average frequency of food consumption in the preceding year of first gout attack. Multivariate logistic regression analysis was performed to evaluate risk factors of tophi. Dependent variables were those met p values less than 0.1 on univariate analysis.

Results: a) There were 682 gout patients recruited with 94% male, mean age 44±16 years, and median gout duration 4 (2,7) years. The mean sUA was 9.0±2.3mg/dL. Tophi presented in 166 (24.3%) patients with 31 (4.5%) patients diagnosed by ultrasound. In patients with gout duration <3 years, 3-4.9 years, 5-9.9 years and ≥10 years, the prevalence of tophi were 6.7%, 19.4%, 38.8%, and 49.6%, respectively. b) Tophus patients were characterized by older age (48±16 vs. 42±15 years), longer gout duration [7(4, 10) vs. 3(1, 5) years], more ever involved joints [11(4, 24) vs. 3(2, 5)] and more flare times in the last year [11(4, 24) vs. 3(2, 6)]. For comorbidities, tophus patients presented higher prevalence of urolithiasis (36% vs. 23%), hypertension (54% vs. 40%), and diabetes (20% vs. 11%) but less hypertriglyceridemia (19% vs. 32%, all P<0.05). c) Compared with patients without tophi, tophus gout patients consumed more red meat (>300g/d: 12% vs. 6%), seafood (>2 times/w: 18% vs. 13%), hotpot (≥1 time/w: 17% vs. 10%) and alcohol (>84g/d: 23% vs. 9%). d) Dependent variables of multivariate logistic regression analysis included age, gender, gout duration, diuretics, BMI, sUA, serum creatinine, urine pH, hypertriglyceridemia, hypertension, diabetes, coronary heart disease, urolithiasis, alcohol consumption, hotpot, red meat, and seafoods. Gout duration, sUA, serum creatinine and urine pH were positively correlated with tophi, while hypertriglyceridemia was negatively associated with tophi. For dietary factors, heavy alcohol consumption (> 84g/ day vs. < 1g/ day OR=2.624, 95%CI: 1.437-4.793) and hotpot (≥ 1 time/w vs. < 1 time/w, OR=2.164, 95%CI: 1.217-3.847) were positively correlated with tophi.

Conclusion: Our data suggest tophi should not be ignored in gout patients with short duration. Heavy alcohol consumption and hotpot are associated with the formation of tophi.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.4007

AB0924

CALCIFIC TENDONITIS OF THE ROTATOR CUFF: PERIOSTIN ENRICHMENT IS ASSOCIATED WITH A BETTER RESPONSE TO ULTRASOUND-GUIDED PERCUTANEOUS LAVAGE.

C. Darrieutort-Laffite^{1,2}, P. Arnolfo^{1,2}, E. Correia¹, F. Blanchard¹, B. Le Goff^{1,2}. ¹INSERM U1238, Nantes, France; ²Nantes University Hospital, Rheumatology, Nantes, France

Background: Calcific tendonitis of the rotator cuff is a frequent cause of chronic shoulder pain. It is due to apatite deposits within the tendons. Little data are currently available about proteins associated to crystals within deposits.

Objectives: The aim of the study was to quantify 6 proteins in calcific powders obtained from patients who have undergone an ultrasound-guided percutaneous lavage (UGPL) of their calcification and to look for correlations between their concentration and patient characteristics.

Methods: Calcific powders were obtained from patients included in the CALCECHO trial whose main objective was to compare post-procedure pain between two groups: methylprednisolone or placebo injected at the end of the lavage [1]. Based on preliminary proteomic data and literature data, the following proteins have been selected and quantified by ELISA: Pigment-epithelium Derived Factor (PEDF), Osteopontin (OPN), Periostin (POSTN), Activin A (ACT A), Osteoprotegerin (OPG) and Bone Morphogenic Protein-2 (BMP-2). The level of each protein was expressed in µg per pg of the total proteins present in the sample. These proteins have been selected for their link to the mineralization. Correlations between the level of each protein and radiographic and ultrasound appearance of the calcific deposits were sought. We also looked for correlations between level of each protein and duration of pain or response to UGPL (Mann-Whitney test).

Results: Sixty-six samples were studied: mean age was 48.9 (+/- 9.7) and 68% were female. Mean duration of shoulder pain was 30 months with a mean VAS pain of 68/100 (+/-14). Mean calcification size was 1.8 cm. Results of ELISA were as follows: mean level of PEDF at 1097 pg/μg, mean level of OPG at 135 pg/μg, mean level of POSTN at 6.9 pg/μg, mean level of ACT A at 19.6 pg/μg and mean level of OPN at 49.6 pg/μg although BMP-2 was undetectable. There was no correlation between level of proteins and the size of the calcification or the duration of pain. There was no difference in protein levels between type A and type B calcifications on radiography (classification of the French Society for Arthroscopy). In contrast, levels of POSTN and OPN were significantly higher in nodular calcifications compared to the homogenous ($p=0.003$ and $p=0.01$ respectively) or fragmented types ($p=0.03$ and $p=0.04$ respectively). Furthermore, calcifications without acoustic shadowing were enriched in POSTN compared to those with ($p=0.04$). Finally, the periostin level was significantly higher in calcifications that have responded well to UGPL ($p=0.02$).

Conclusion: In this cohort of patients treated by UGPL, we observed higher levels of POSTN and OPN in the less dense calcifications and POSTN enrichment appeared to be associated with a better response to UGPL. Considering these data, further studies will be necessary to better understand the role of this protein in calcific tendonitis.

References:

- [1] Darrieutort-Laffite C, Varin S, Coiffier G, Albert JD, Planche L, Maugars Y, Cormier G, Le Goff B. Are Corticosteroid Injections Needed After Needling and Lavage of Calcific Tendonitis: A Randomized, Double-Blind, Non-Inferiority Trial. *Ann Rheum Dis*. 2019 Jun;78(6):837-843.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.2632

AB0925 MULTIPLE FRACTURES DUE TO IRON-INDUCED AND FGF23-MEDIATED HYPOPHOSPHATEMIC OSTEOMALACIA: AN UNKNOWN ADVERSE EFFECT

E. Fernández¹, C. Tornero¹, V. Navarro-Compán¹, G. Bonilla¹, C. Plasencia¹, A. Balsa¹, P. Aguado¹. ¹La Paz University Hospital, Rheumatology, Madrid, Spain

Background: The use of a specific and widely used type of intravenous ferrotherapy, ferric carboxymaltose (FCM), has been linked to the development of an asymptomatic and transient hypophosphataemia. However, in recent years it has been published that it can generate a severe hypophosphataemic osteomalacia (HPO) mediated by fibroblast growth factor 23 (FGF23) that is associated with high morbidity¹. It is a potentially serious adverse effect whose prevalence is unknown and that clinicians may know little about.

Objectives: To know the clinical and biochemical characteristics of this adverse effect and make it visible in the medical community.

Methods: Observational descriptive study of three cases of patients assessed in the Rheumatology department of our hospital who were referred for study of recurrent fractures and diagnosed of FGF23-mediated HPO due to FCM. Demographic, clinical and laboratory data of the patients are described.

Results: The clinical and laboratory characteristics of the patients are shown in table 1. All patients presented clinical and biochemical features compatible with FGF23-mediated HPO (mean of FGF levels 240 kRU/L, NR 0-145). All had multiple insufficiency fractures (Fx) and/or avascular necrosis (AN), with hip involvement in all 3 cases. Other causes of HPO were ruled out in all of them using PET ¹⁸F-FDG, octreotide scintigraphy, abdominal magnetic resonance and PET ⁶⁸Ga-DOTATOC, and a genetic study of hypophosphataemic rickets was also performed in case 1. In all patients FCM was discontinued and phosphate levels were progressively normalized allowing the withdrawal of oral phosphate and calcitriol replacement therapy. After metabolic normalization, none presented new Fx or AN.

Conclusion: Treatment with FCM can cause severe FGF23-mediated HPO, multiple fractures and a great decrease in the quality of life. Since it can be potentially serious and easily reversible, it is important to favor the dissemination of these new cases and the knowledge of this disease. The need to monitor phosphate and/or FGF23 levels in patients receiving this intravenous iron therapy should be evaluated.

References:

- [1] Bishay RH, Ganda K, Seibel MJ. Long-term iron polymaltose infusions associated with hypophosphataemic osteomalacia: a report of two cases and review of the literature. *Ther Adv Endocrinol Metab*. 2017;8(1-2):14-19. doi:10.1177/2042018816678363

Disclosure of Interests: Elisa Fernández: None declared, Carolina Tornero: None declared, Victoria Navarro-Compán Consultant of: Abbvie, Lilly, Novartis, Pfizer, UCB, Speakers bureau: AbbVie, MSD, Lilly, Novartis, Pfizer, UCB, Gemma Bonilla: None declared, Chamaida Plasencia: None declared, Alejandro Balsa Grant/research support from: BMS, Roche, Consultant of: AbbVie, Gilead, Lilly, Pfizer, UCB, Sanofi, Sandoz, Speakers bureau: AbbVie,

Table 1. Clinical and biochemical characteristics of the patients

	Case 1	Case 2	Case 3
Age (years)^a	36	75	43
Medical history	Crohn's disease (CD), right hemicolectomy, CD-associated spondyloarthritis	Small bowel angiodysplasias	Antisintetase syndrome. Uterine fibroids.
Cause of anemia	Gastrointestinal bleeding and malabsorption	Gastrointestinal bleeding	Gynecological bleeding
Fe-CBX start date	10/2010	08/2013	02/2018
Fe-CBX discontinuation date	10/2018	11/2018	06/2018
Total time Fe-CBX (months)	96	63	4
Fractures	AN: left calcaneus posterior tuberosity, astragaline dome, right femoral head Fx: left talus, tibial pylon, tibia-astragaline and ischiopubial branch; right 2nd metatarsal, distal tibia, posterior tuberosity of calcaneus	Fx both femoral necks and right sacral wing	AN both femoral heads
Bone densitometry	LS: Z-score -2.4 FN: Z-score -2.4		LS: Z-score -0.5 FN: Z-score -1.3
Phosphate, mg/dL (NR 2.5-4.5)^a	1.8	1.6	1.3
Calcium, mg/dL (NR 8.6-10.2)^a	9.1	8.3	9.0
1,25(OH)₂D₃, ng/ml (NR 30-100)^a	54	12	7
PTH, pg/ml (NR 12-65)^a	71	223	104
AP, U/L (NR 46-116)^a	113	140	86
Ph-exc, mg/24h (NR 400-1300)^a	1609	1630	489
TPR, % (NR 73-87)^a	58.3	50.2	70.7
FGF-23, kRU/L (NR 0-145)^a	183	335	201
Time to normalization^b	10	4	8

^aDuring treatment with FCM. ^bOf serum phosphate levels since FCM discontinuation in months. LS: Lumbar spine. FN: Femoral neck. NR: Normality range. PTH: Parathyroid hormone. AP: Alkaline phosphatase. Ph-exc: 24-hour urine phosphate excretion. Ph-cl: phosphate clearance. TPR: Tubular phosphate reabsorption. Data highlighted in bold indicate altered values.

Lilly, Sanofi, Novartis, Pfizer, UCB, Roche, Nordic, Sandoz, Pilar Aguado: None declared

DOI: 10.1136/annrheumdis-2020-eular.5938

AB0926 PERFORMANCE OF THE ACR-EULAR GOUT CLASSIFICATION CRITERIA FOR THE DIAGNOSIS OF GOUT IN CLINICAL PRACTICE: A ONE-YEAR FOLLOW-UP STUDY

M. Gamala¹, J. W. G. Jacobs², S. Linn-Rasker³, M. Nix³, B. Heggelman³, P. Pasker³, J. M. Van Laar², R. Klaasen³. ¹UMC Utrecht/Nordwest Ziekenhuisgroep, Utrecht, Netherlands; ²UMC Utrecht, Utrecht, Netherlands; ³Meander MC, Amersfoort, Netherlands

Background: Classification criteria are used for classifying groups of patients, especially for clinical trials, and diagnostic criteria for diagnosis in individual patients.

Objectives: to establish the performance of the 2015 ACR/EULAR gout classification criteria for the diagnosis of gout in patients with undifferentiated arthritis. Secondary, to explore the use and efficacy of uric acid lowering therapy (ULT) in daily clinical practice in new gout patients.

Methods: 1-year follow-up study was performed in subjects with unclassified arthritis, who had been classified as gout patients or not, according to the gout classification criteria, including imaging with dual-energy CT, but without ultrasonography and joint X-rays.(1) The reference was the clinical diagnosis (gout yes/no) after 1-year follow-up.

Results: 71 patients were included; their demographic and clinical characteristics are summarized in Table 1. All 63/71 patients classified as having gout at baseline also had a clinical gout diagnosis after one year, and of the patients not classified, none had the clinical diagnosis of gout at one year.