Patients who had GCA, other rheumatic disorders like SLE or were newly diagnosed with cancer within 2 years of diagnosis were also excluded. The primary end-point was the remission by one month after commencement of treatment. Remission was defined as the absence of PMR symptoms and the elevation of erythrocyte sedimentation rate (ESR) or C-reactive protein (CRP). For evaluation of the composite outcome of refractory PMR and final diagnosis of RA, the secondary outcome was defined as requirement of additional treatment and/or relapse during the observation period. Relapse was defined as a flare of PMR symptoms and the elevation of ESR or CRP. Categorical variables with a possible relation to the outcomes such as clinical characteristics, criteria items, articular symptoms and laboratory data were compared by using the nonparametric chi-square test.

Results: The mean age of enrolled 61 patients was 70.6 years and 67% were female. 38 (62%) patients failed to achieve remission by one month. The proportion of patients showing elevated ESR (>100 mm/h) at baseline was higher in patients without remission than those with remission (62% vs. 30%, $p=0.017$) though there were no differences in sex, articular symptoms. Patients without remission also showed a lower reduction rate of CRP after a week (76% vs. 89%, $p=0.026$) compared to those with remission. Furthermore, 30 (49%) patients required additional treatments and/or had relapses during the observation period. These patients showed higher platelet counts at baseline (42.9 ± 1.9 vs. $36.3 \pm 2.0 \times 10^4/\text{mm}^3$, $p=0.023$) and lower proportion of achievement of CRP levels less than 1.0 mg/dl after a week (44% vs. 80%, $p=0.009$).

Conclusions: ESR and platelet counts at baseline and early treatment response might be useful for prediction of refractory PMR and/or transition to RA.

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AB1323

DOES OBESITY REPRESENT A RISK FACTOR FOR A POOR REMISSION RATE IN JAPANESE PATIENTS WITH RHEUMATOID ARTHRITIS TREATED WITH ANTI-TUMOUR NECROSIS FACTOR-ALPHA THERAPY?

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Background: Despite increased interest in the association between obesity and rheumatoid arthritis,¹ evidence remains sparse in the Japanese population due to the fact that Asians have different associations between the body mass index (BMI), percentage of body fat, and health risks compared with the Western population. To address this problem, a World Health Organisation (WHO) consultation report proposed appropriate BMI cut-off points for the Asian population and redefined obesity as BMI of ≥ 27.5 kg/m².²

Objectives: From the perspective of exploring the association of obesity and rheumatoid arthritis, it is necessary to precisely define obesity for appropriate ethnic groups. Hence, this study aimed to assess whether obesity represents a risk factor for a poor remission rate in Japanese patients with rheumatoid arthritis requiring anti-tumour necrosis factor-alpha (TNF- α) therapy using appropriate BMI cut-off points for the Asian population.

Methods: Participants were identified from our hospital in Shizuoka, Japan, and followed up from 2009 to 2017. Based on WHO guidelines, we classified participants using an appropriate BMI for the Asian population as follows: underweight, <18.5 kg/m²; normal weight, 18.5 – 23.0 kg/m²; overweight, 23.0 – 27.5 kg/m²; and obese, ≥ 27.5 kg/m². The primary outcome was to define whether obesity affects the clinical response to anti-TNF- α therapy. The response variable was defined as the simplified disease activity index (SDAI) remission after 12 months. In addition, we estimated multivariate odds ratios and their 95% confidence intervals (CIs) for nonremission after 12 months of initiating anti-TNF- α therapy or censored as nonresponders to the therapy after adjusting for sex, age, smoking status, anticyclic citrullinated peptide antibody status, rheumatoid factor status, and disease duration.

Results: We monitored 295 outpatients with rheumatoid arthritis who received anti-TNF- α therapy for at least 12 months or censored as nonresponders to the therapy. The mean $\pm$ SD for SDAI at the baseline was 24.20 ± 14.47 . The BMI was ≥ 27.5 kg/m² (obese) in 16 (4.2%) of 295 patients. At the 12 month follow-up, 62.0% of patients with rheumatoid arthritis had reached SDAI remission. The multivariate odds ratio for nonremission at 12 months or nonresponsiveness of obese patients referred to normal weight was 2.24 (0.53–9.43), which tended to be higher for poor response, albeit not significantly.

Conclusions: Obesity may represent a risk factor for a poor remission rate in Japanese patients with rheumatoid arthritis treated with anti-TNF- α therapy. Thus, weight-loss programs might be a feasible solution for improving the condition of obese Japanese patients with rheumatoid arthritis.

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AB1324

STUDYING THE RELATIONSHIP BETWEEN BODY MASS INDEX, BMI, AND BONE MINERAL DENSITY, BMD, OF LUMBAR VERTEBRAE AND FEMORAL NECK

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Background: There is a well known association between BMI and BMD in as much that patients with higher BMI have higher BMD, secondary to factors including muscle mass and fat mass¹. However it is not clear whether this relationship is equal in all areas of the body assessed for bone mineral density (BMD) estimation, which traditionally are the lumbar vertebrae, and different areas of the femur. Our study sets out to establish if this association exists in the lumbar vertebrae and femoral neck, since Dual Energy X-ray Absorptiometry (DEXA) scans measure BMD of both.

Objectives: To explore the relationship between BMI and BMD in a cohort of patients referred for DEXA scan.

Methods: Data was used from patients referred for DEXA scan to Royal Lancaster Infirmary between (2006 and 2010). The following were recorded: age, sex, height, weight, BMI, BMD at L1-L4, BMD at femoral neck (left and right) and BMD at hip (left and right).

Male and female patients were analysed separately. A Linear regression model was fitted using BMI with BMD at L1, L2, L3, L4, total right hip, total left hip, right neck of femur and left neck of femur as explanatory variables. Adjusted r-squared (r^2) values were used to compare the fit of the models, both with and without age-adjustment.

Results: 35759 patients were used in the study, of which 84% were female. Mean age was 62.2 years (SD 12.8), mean height was 161.9 cm (SD 8.3), mean weight was 70.4 kg (SD 15.3), mean BMI was 26.8 kg/cm² (SD 5.2).

Abstract AB1324 – Table 1 Adjusted r^2 values for each group were as follows:

Site	Adjusted r ² Male	Adjusted r ² Female	Adjusted r ² Male (age-adjusted)	Adjusted r ² Female (age-adjusted)
L1	0.0986	0.0909	0.1002	0.1747
L2	0.0708	0.0678	0.0718	0.1488
L3	0.0581	0.0603	0.0695	0.1127
L4	0.0611	0.0548	0.0921	0.0740
Total Right Hip	0.1480	0.1345	0.1806	0.2983
Total Left Hip	0.1532	0.1518	0.1767	0.3180
Neck of Femur, Right	0.0997	0.0616	0.1768	0.2536
Neck of Femur, Left	0.0898	0.0715	0.1603	0.2695

Conclusions: Our study identifies that there is a positive correlation between increasing BMI and BMD at lumbar vertebrae and at the hips, in both male and female patients. We also identified age as a contributing factor. The relationship between BMI and BMD appears to be more significant in the hip and neck of femur than the lumbar spine. When studying the lumbar spine we found that the association is greater the higher up the lumbar spine, with most positive correlation being in L1 of female patients. This would indicate that using the lower lumbar spine might not be appropriate to assess bone health.

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AB1325

THE FREQUENCY OF ANTI-DFS70 AUTOANTIBODIES IN JAPANESE WOMEN WITH PERI- AND POST-MENOPAUSAL ARTHRALGIA

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Background: The antinuclear antibody (ANA) test is often used as a screening test to aid in the diagnosis of systemic lupus erythematosus (SLE) and other systemic autoimmune rheumatic diseases (SARD). However, recently it was reported that a certain autoantibody referred to as anti-dense fine speckled 70 (DFS70) are much more common (up to 25%) of non-SARD and healthy individuals but rare (<5%) in SLE and certain SARD. The frequency of anti-DFS70 is even lower (i.e. <1%) if monospecific anti-DFS70 antibodies are found. Some reports suggested that anti-DFS70 are more common in younger females, suggesting that hormonal factors may be responsible for the cognate B cell response.

Objectives: The primary objective of our study was to determine the frequency of anti-DFS70 in menopausal women who were referred for evaluation of undifferentiated arthritis (UA).

Methods: 282 women including 105 with UA and an age range of 27–91 years (mean=60.3) were enrolled. Menopausal women were divided into pre-, peri-, and post-menopausal stages according to menstrual regularity. (E2), Follicle stimulating hormone (FSH), rheumatoid factor (RF), ANA (by indirect immunofluorescence (IIF) (MBL) anti-cyclic citrullinated peptide antibody (ACPA: MBL ELISA) and C-reactive protein (CRP) were included in the serology workup. Postmenopausal arthralgia was designated PoMA and perimenopausal arthralgia PeMA.

Results: In PoMA women who received HRT for two months estradiol levels increased, FSH levels decreased and the joint pain visual analogue scale was reduced by 70%, as compared to baseline. Similarly in PeMA women, administration of 600 mg tocopherol N daily had the same efficacy as that observed in PoMA. The overall frequency of anti-DFS70 of 26.7% (28/105) in PoMA and PeMA women was significantly higher than that in UA females who were diagnosed with rheumatoid arthritis (RA) (7/65:10.8%) or primary Sjogren's syndrome (SjS) (3/31: 9.7%) (p<0.05). In addition, anti-DFS70 Ab was observed primarily in low titer (1:40 – 1:160) ANA positive sera. On the other hand, higher titer ANAs (titer >1:320) were observed in the females that were diagnosed as systemic lupus erythematosus (SLE) (30%) or primary SjS (48.4%), the majority of whom had lower titers of anti-DFS70, although several sera contained both high titer ANA and anti-DFS70 (see figure).

Abstract AB1325 – Figure 1. Relationship of ANA titers and anti-DFS70 levels in peri- and post-menopausal women. The majority of anti-DFS70 positive sera had only low to modest ANA titers. ANA titer in vertical axis and anti-DFS70 titers by ELISA on the horizontal axis.

Conclusions: Anti-DFS70 was found in higher frequency in PeMA and PoMA women than in women who developed a defined systemic autoimmune rheumatic disease such as SLE, SjS or RA. This is the first study to suggest that the presence of this autoantibody may reflect oestrogen fluctuations or deficiency. A negative association between ANA titer and anti-DFS70 levels by ELISA remains to be confirmed in larger studies.

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AB1326

NICOTINAMIDE PHOSPHORIBOSYLTRANSFERASE MAY BE NEW FACTORS CONTRIBUTING TO OSTEOARTHRITIS

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Background: Obesity is a condition that prolongs chronic inflammation and promotes synthesis and secretion of pro-inflammatory factors by adipose tissue including adipokines¹ and can be one of the significant factors in the progression of osteoarthritis (OA).² Nowadays many studies have shown that level nicotinamide phosphoribosyltransferase (Namt) increases in obesity and can also affect the inflammation in local tissues and together with other adipokines influences the development of OA.³

Objectives: To study the effect of weight loss over 5 kg on the clinical manifestations of OA, indicators of water, lipid metabolism and Nampt serum levels in patients with OA.

Methods: We observed 110 people: 80 patients with OA and 30 healthy individuals in the control group with body mass index (BMI) of 25 to 35 kg/m², aged 18 to 79 years participated in the study.

Namt level in serum was determined by indirect solid phase ELISA using a commercial test systems (RaiBiotech, cat. № EIA – VIS – 1).

Results: As overweight patients were recruited in the study, hypocaloric diet low in animal fats and physiotherapy has been recommended to all participants. The first group consisted of patients who were able to reduce body weight by 5 kg and more (18 pers.), the second group – patients with weight reduction of less than 5 kg and patients without any weight loss (62 pers.). Nampt concentration were evaluated in these patients I groups 4,33±0,39 before treatment to 2,40±0,23 ng/ml (t=5,85, p<0,001). In analysing the parameters before and after treatment, it should be noted that we observed significant decrease in the severity of the clinical manifestations of OA, visfatin level, CRP, and glucose levels and lipid profile in the 1st group of patients. These data proves that obesity may be an important risk factor for OA progression. As a result, weight loss results in decreasing metabolic disorder severity. In the second group of patients we have seen a decrease in all the parameters, but a significant difference has been observed only in the level of CRP, level of pain at rest and during walking according to VAS scale and total index on the WOMAC.

Conclusions: As a result of our study patients with OA with weight loss of more than 5 kg had more obvious pain relief than patients with the original weight. At the same time a significant improvement has been seen in carbohydrate and lipid metabolism. These findings suggest that there is a possible role of Nampt in the pathogenesis of OA.

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AB1327

CARDIAC MANIFESTATIONS IN SPONDYLOARTHRITIS: PREVALENCE AND PREDICTIVE FACTORS

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Background: Cardiac involvement is a well-recognised complication of spondyloarthritis (SpA). The spectrum of this condition is large and includes mitral valve disease, conduction disorders and pericarditis, but the aortic disease remains the most characteristic lesion.