Results: Among 64 patients included a musculoskeletal syndrome was detected in 46 patients (71.8%), whereas diffuse muscle pain was observed in 42 (65.6%) patients, and 83.3% of them had associated arthritis. Serological, imaging and clinical findings suggested more frequently a seronegative arthritis, whereas few patients developed rheumatoid arthritis and arthritis secondary to a connective tissue disease. A direct correlation between pre-existing autoimmune disease and pain symptoms before cancer diagnosis and risk of developing arthritis under AI therapy was observed. Mean vitamin D levels were significantly lower in patients with diffuse myalgia compared to patients with no diffuse myalgia (11.2 ± 5.8 versus 29.5 ± 10.8 ng/ml; t-test $p < 0.0001$), suggesting a potential involvement of vitamin D deficiency in diffuse muscle pain.

Conclusion: The etiology of AI-associated pain syndrome remain unknown, but clinical, serological, imaging data may be useful to identify the true origin of the musculoskeletal syndrome, as well as a detailed anamnestic history may be useful to identify autoimmune predisposing factors. Myalgias and generalized weakness are likely associated with hypovitaminosis D and might be misdiagnosed as fibromyalgia. The management of these patients should become a multispecialistic task.

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AB1291 ASSOCIATION OF CCL2 GENE POLYMORPHISMS AND THEIR SERUM LEVELS WITH SUSCEPTIBILITY TO KNEE OSTEOARTHRITIS

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Background: Osteoarthritis (OA) is one of the most depleting chronic disorders and its pathogenesis is yet to be unfold. It is characterized by pain, swelling, stiffness, decreased ability to move and, sometimes, the formation of bone spurs. Knee Osteoarthritis (KOA) is multifactorial and remains largely understudied at molecular level. The available literature suggested that the development, onset and progression of OA is significantly affected by genetic factors. Chemokines are small, secreted proteins that released from chondrocytes and/or synovial fibroblasts of KOA patients. In this case control study, we investigated the possible association between promoter polymorphisms rs1024611 and the polymorphism rs4586 in exon 2 of the chemokine (C–C motif) ligand 2 (CCL2) gene and knee OA.

Objectives: To investigate the possible association between promoter polymorphisms rs1024611 and the polymorphism rs4586 in exon 2 of the CCL2 gene and KOA.

Methods: DNA was obtained from 300 primary knee OA patients and 300 healthy controls. CCL2 genomic variants (rs1024611 and rs4586 polymorphisms) were detected by polymerase chain reaction restriction fragment length polymorphism (PCR-RFLP). In addition, the effect of serum levels of rs1024611 and rs4586 on cases and controls were examined by enzyme-linked immunosorbent assay (ELISA).

Results: The rs1024611 A/G promoter polymorphism was associated with KOA [genotype frequency, $p = 0.007$; allele frequency, $p = 0.01$]. Significant association was observed between the G carrier of the rs1024611 A/G promoter polymorphism and primary knee OA patients ($p = 0.01$). However, no significant difference was found in the rs4586 polymorphism. Haplotype frequency analysis revealed a significant difference ($\chi^2 = 8.01$, $p = 0.02$). The CCL2 serum level of subjects with the G carrier (285.0 ± 86.5 pg/mL) of the rs1024611 A/G promoter polymorphism was statistically higher than that of subjects with the non-G carrier (160.5 ± 47.8 pg/mL). Further in relation with clinical severity of KOA, we observed significant association of the G carrier of the rs1024611 A/G promoter polymorphism with both Visual analogue scale (VAS) ($p < 0.01$) and Western Ontario and McMaster Universities (WOMAC) score ($p < 0.05$).

Conclusion: The G carrier of the rs1024611 A/G promoter polymorphism was found to be associated with primary knee OA, and could be a susceptibility factor in the development of primary knee OA in the North Indian population.

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AB1292 PREVALENCE OF VITAMIN D DEFICIENCY AND ITS ASSOCIATED FACTORS AMONG RHEUMATOID ARTHRITIS PATIENTS MANAGED IN A RHEUMATOLOGY UNIT OF A TERTIARY CARE HOSPITAL IN SRI LANKA

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Background: Prevalence of unrecognized vitamin D deficiency can be high among Rheumatoid Arthritis (RA) patients. Lack of mobility among of these patients prevent them receiving adequate sun exposure. Low levels of vitamin D could potentially cause a higher disease burden and disease activity.

Objectives: To determine the prevalence of vitamin D deficiency and its associated factors among RA patients managed in a rheumatology unit of National Hospital of Sri Lanka (NHSL).

Methods: A descriptive cross-sectional study was done among patients with RA with a calculated sample size of 137. Being diagnosed according to ACR – EULAR criteria and availability of serum vitamin D level were among the inclusion criteria. Patients with disability due to causes other than RA were excluded. All patients satisfying the eligibility criteria were invited to be recruited. A data extraction sheet was utilized. Data was collected by investigators. The associations were evaluated with Chi square test and Spearman correlation coefficient at a significance level of 5%. Ethics approval was obtained from ethics committee of NHSL.

Results: The response rate was 92%. The median (IQR) age of participants were 56.5 (49.0 to 64.25). Among participants, majority (n=117, 92.9%) were females. Only 11.1% (n=14) had normal vitamin D levels. The insufficient and deficient categories comprised of 38.1% (n=48) and 50.8% (n=64). The commonest symptoms included; joint pain (n=101, 80.2%), fatigue (n=84, 66.7%) and muscle pain (n=78, 61.9%). Deficiency or insufficiency was lowest in the occupation category of “agricultural and labourer” (37.5%) while 100% in many indoor-occupied categories and among Muslims. “Deficiency or insufficiency” was significantly associated with muscle pain ($p=0.001$) but not with CDAI ($p=0.896$), fatigue ($p=0.549$), joint pain ($p=0.735$).

Conclusion: Vitamin D “deficiency or insufficiency” is common among patients with RA and commoner in the sub-categories with muscle pain and with restricted sun-exposure. More research must be promoted in this regard.

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