kinases and PI3-kinase revealed that TCR independent, CD28 mediated Th2 differentiation is critically dependent on IL-4 stimulation and the activation of the MAP kinases p38 and ERK1/2. Whereas CD28 signals directly activated IL-4 and p38 in memory T cells, ERK phosphorylation required indirect stimulation by IL-2.

Conclusion The results indicate that generation of Th2 effectors requires coordinate signalling via the CD28 and IL-2 pathways. The mechanisms regulating Th2 cell differentiation might provide valuable tools for therapeutic modulation of chronic autoimmunity.

THU0024 EFFECTS OF C-REACTIVE PROTEIN ON MONOCYTE ACTIVATION

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Background FcγRIIIa (CD32) has been identified as the functional high affinity CRP receptor on leukocytes (monocytes and neutrophils). Studies on the effects of CRP on neutrophils show that receptor activation signals to downstream functional changes in phagocytosis, cytokine release and generation of reactive oxygen species. The effects of CRP on monocytes which are key players in rheumatoid chronic inflammation, have not been studied.

Objectives To investigate the phenotypic and functional consequences of CRP on peripheral blood monocytes *in vitro*.

Methods Peripheral whole bloods (PWB) from consenting individuals, with or without RA (ARA criteria), were collected into citrate and kept on ice. Mononuclear cells (MNC) and monocytes (MON) were isolated by differential centrifugation using lymphoprep and Dynal negative isolation kit respectively, using sigmacoted tubes to minimise artefactual activation. Cells were exposed to CRP from 0–200 microg for up to 30 min at 37°C and analysed for (a) CD11b and CD32 expression by flow cytometry (PWB and MNC); (b) adhesion to LPS-activated human umbilical vein endothelial cells (MON) and (c) release of reactive oxygen species (MON).

Results CD14⁺ve rheumatoid monocytes expressed more than double the level of CD11b (8.644 + 0.57), compared with those from healthy controls (4.17 + 0.4), $p = 0.0043$. There was little difference in CD32 expression. Exposure of PWB and MNC's from normal healthy subjects to increasing concentrations of CRP led to a dose dependent increase in CD11b expression from 5.7 + 0.1 to 12 + 0.6 at 200 microg CRP ($p < 0.01$); this was not enhanced by LPS (500 ng/ml). However, not all normals were responders to CRP: 46% of subjects ($n = 13$) showed no change in CD11b levels. Monocyte adhesion to HUVECs as determined using BCECF loaded cells relative to U937 monocytes, significantly altered following treatment with CRP for 30 mins at 37°C. Release of superoxide anion (MON) was elicited by 200 but not 20 microg CRP, as determined by cytochrome C reduction.

Conclusion CRP can effect monocyte activation *ex vivo*, and induce phenotypic changes similar to those observed in rheumatoid patients. The variation in response from normal subjects may reflect different CD32 genotypes. A single nucleotide polymorphism in FcγRIIIa which encodes histidine or arginine at position 131, strongly influences both IgG2a and CRP binding¹ and may identify individuals with functionally discrete

responses to CRP. Allele specific response to CRP may be important in monocyte activation and extravasation during rheumatoid arthritis and complicating vascular disease.

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Back Pain

AB0163 PLAIN RADIOGRAPHY FINDINGS IN PATIENTS WITH LOW BACK PAIN

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Background

Objectives This study was performed to investigate the radiopathological findings based on plain radiographic examinations of patients with low back pain.

Methods In the present study, we have examined 747 patients, with a mean age of 47.97 years, 488 (65.32%) were women and 259 (34.67%) were men. Plain antero-posterior and lateral lumbosacral vertebrae radiographes were obtained from the patients and were examined in regard to the presence of congenital abnormalities (sacralisation, lumbarisation, spina bifida), lumbar degenerative disc disease, spondylolisthesis and osteoporosis. Kellgren-Lawrence's scoring system was used to assess the presence of degenerative disc disease. Increased vertebral radiolucency, accentuation of vertebral endplates and prominence of vertical trabeculae due to relative loss of horizontal trabeculae were accepted as radiological findings of osteoporosis.

Results It was found that degenerative disc disease (29.58%) was the most frequently encountered radiopathological finding, followed by osteoporosis (23.3%) and congenital abnormalities (21.15%). Spondylolisthesis (6.02%) was relatively rare. The most common congenital abnormality was sacralisation (17.67%). Degenerative disc disease was most frequently seen at L4-L5 and L5-S1 levels. When the radiopathological findings were analysed according to sex distribution, there was no significant difference between women and men, except for osteoporosis.

Conclusion The results of this study showed that degenerative disc disease was the most frequently seen radiopathological finding, followed by osteoporosis, congenital abnormalities and spondylolisthesis in patients with low back pain.

AB0164 POSTURAL SYMPTOMS AND THE EFFECT OF TREATMENT WITH PLANTARS AND/OR PRISMATIC LENSES

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Background

Objectives To review and evaluate in a prospective study the most frequent postural symptoms and examine the effect of

Abstract AB0164 Table 1

	Low back pain	Dorsal pain	Cervical pain	Headaches	Dizziness	Astenopia	Unbalance	Vertigo	Migraine
Frequency n = 100	60%	41%	55%	47%	45%	44%	37%	30%	23%
Improv. aft treatm	37%	28%	32%	33%	28%	28%	30%	15%	18%
Wilcoxon test	p = 0.001	p = 0.02	P = 0.001	p = 0.000	p = 0.000	p = 0.005	p = 0.002	p = 0.02	p = 0.05

treatment with plantars and/or prismatic lenses correction (legs length dismetry, functional and structural scoliosis).

Methods A group of 100 patients with postural symptoms were evaluated and treated in our institution for more than 36 months. Their symptoms were graduated from 0 to 4 and compared before and after a year of treatment. An x-ray film of the rachis from anteroposterior view was obtained. The aim of the corrections was to obtain the nearest horizontal equilibrium for the different plans of the body and equal distribution of weight. Leg length dismetry was corrected according to the position of the femoral heads and searching for the relative inclination degree of both femoral heads and sacred with the horizontal plan. Correction with prismatic lenses was performed in the cases without leg length dismetry, horizontal sacral base, inclination of the head or shoulder plans.

Results Of the 100 patients, 71 were female and reported mean age 33.7 ± 20.2 SD years. The symptoms more commonly found are shown in table below by frequency sequence at first observation. Improvement after completed treatment was obtained for all analysis symptoms with statistical significance except for temporomandibular joint, hip, knee and foot pain.

Conclusion The treatment of different postural symptoms with plantars, prismatic lenses or both together revealed a global improvement in low back and cervical pain, dizziness, astenopia, headache, dorsal pain, unbalance, migraine, vertigo. The different treatments analysed revealed a clinically significant improvement in low back pain ($p = 0.001$), cervical pain ($p = 0.001$), headache ($p = 0.000$), dizziness ($p = 0.000$), astenopia ($p = 0.005$), dorsal pain ($p = 0.022$), unbalance ($p = 0.002$), vertigo ($p = 0.027$), migraine ($p = 0.05$). This statistical significance improvement difference is higher with the follow-up.

FRI0232 IMPORTANCE OF THE RADIOLOGICAL STUDIES IN THE DIAGNOSIS OF THE CHRONIC LOW BACK PAIN

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Background

Objectives Classify the radiological alterations in patients with chronic low back pain (LBP) and to determine their relationship with symptomatology, and value the contribution carried out in the classification by diagnostic groups.

Methods A longitudinal study of patients that required specialised attendance in the period of time January 95–96 by LBP. All patients were carried a standard radiological study out and the found alterations were classified as alterations of the development and the statics, of the articulate space and of the bony density. Classified the patients in a retrospective way it was determined the contribution of the radiology like confirmed case, probable case, possible case and no case. A statistical study

was realised determining absolute and relative frequencies, and χ^2 test with a level of trust of 95%.

Results Of a total of 472 selected patients, 334 presented alterations of the static (70,8%) and it was a significant relationship between these alterations and all the diagnostic groups for a value of $p < 0.0001$, except for the groups inflammatory illnesses and alterations for physical agents. Alterations of the articulate space in 362 cases (76,7%), with a significant relationship between these alterations and the spondyloarthropathy ($p < 0.001$), degenerative modifications and bony illnesses ($p < 0.0001$). Alterations of the bony density in 361 cases (76,4%), with a significant relationship for all the groups ($p < 0.001$) except functional dysfunctions and physical agents.

The value of the radiology in the classification of patients was useful ($p < 0.0001$) in the spondyloarthropathy groups and anomalies of the development, it didn't have value ($p < 0.0001$) in functional dysfunctions and physical agents. Orientation value as possible-probable case ($p < 0.0001$) in the degenerative modifications groups and bony metabolic illnesses.

Conclusion 1. Radiological signs predictor of classification are the sclerosis and the ankylosis of sacroiliac joint for the inflammatory illnesses, spondylolysis/spondylolisthesis for anomalies of the development and increase of the discal space for metabolic bony illnesses. 2. The radiology is useful to classify in the inflammatory illnesses and anomalies of the development, it hasn't value in the functional dysfunctions groups and alterations for physical agents, it has an orientation value in degenerative modifications groups and bony illnesses. 3. A 15% of the cases have bony alterations that aren't related with the symptomatology and the diagnosis.

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FRI0233 LOW BACK PAIN FROM "THE JOINT AND BONE DECADE PERSPECTIVE"

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Background Low back pain (LBP) is a common health problem yet it still raises controversies about rationales for appropriate and cost effective management. LBP burden is reported to be higher in developing compared to developed countries in the absence of an adequate work leave compensation system.

Objectives Estimate LBP prevalence, assess risk factors and evaluate the impact in term of work leave.

Methods Three observational studies were conducted between 1997 and 1999. The first was population based on a random sample of 1035 adults asked to report on LBP over the past week. The second was conducted among nursing profession