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Background: Hip joint lesion are the main cause of disability in patients with Ankylosing Spondylitis(AS) in western China. Seriously affect the quality of life of patients. The early clinical characteristics of hip joint disease are not typical, the disease is insidious, and the radiological diagnosis is delayed. The main prevention is early screening and early diagnosis.

Objectives: This study attempted to find out the main characteristics and related factors in different groups of AS combine with hip joint lesion in western China.

Methods: A-First evaluation: How many patients have 1) active SIJ changes on MRI. 2) chronic SIJ changes (each for erosion, sclerosis, ankylosis, or any of those) on MRI. 3) a combination of active changes and chronic changes (each for erosion, sclerosis, ankylosis, or any of those) on MRI. 4) active hip changes on MRI. 5) chronic hip changes (erosion, effusion any of those) on MRI. 6) a combination of active changes and chronic changes (erosion, effusion any of those) on MRI. B-Then, combination SIJ / hip. 7) active SIJ changes on MRI and in parallel active hip changes on MRI. 8) chronic (see above) SIJ changes on MRI and in parallel active hip changes on MRI. 9) chronic (see above) SIJ changes on MRI and in parallel chronic (see above) hip changes on MRI. 10) chronic (see above) SIJ changes on MRI and in parallel any (active or chronic) hip changes on MRI. C-Then, characterization of these groups with non-imaging findings. Characteristics of groups 7-10 above, for age, sex, Disease duration, Hip pain, Joint pain, enthesitis, Diarrhea, uveitis, ASDAS-CRP, BASDAI, BASFI, BASMI, Pat. Global, CRP, ESR, Harris Score, HLA-B27.

Results: Retrospective analysis total 558 SpA patients (mean age 29, mean duration 5 years). 1) HIP-Active+Chronic group (N=288, AS=151) vs SIJ+HIP-Active group (N=241, AS=138): hip pain ($p<0.0001$), diarrhea ($p<0.0001$), joint pain ($p<0.0001$) and BASFI ($p<0.05$); 2) HIP-Active+Chronic(N=117, AS=58) vs SIJ-Chronic+HIP-Active group (N=214, AS=134): hip pain($p<0.0001$), joint pain ($p<0.0001$), enthesitis ($p<0.0001$), ASDAS-CRP ($p<0.05$) and ESR ($p<0.05$); 3) SIJ-Active+Chronic group (N=204, AS=125) vs SIJ-Chronic+HIP-Active group (N=214, AS=134): hip pain ($p<0.0001$), joint pain ($p<0.0001$); 4) SIJ-Active+Chronic group (N=204, AS=125) vs SIJ+HIP-Chronic group (N=72, AS=40): hip pain ($p<0.0001$), Pat. Global ($p<0.05$); 5) SIJ+HIP-Active group (N=241, AS=138) vs SIJ-Chronic+HIP-Active group (N=214, AS=134): HLA-B27 positive (Chi-square, df, 24.98, 4) ($p<0.0001$); 6) SIJ+HIP-Chronic group (N=72, AS=40) vs SIJ-Chronic+HIP-Active/Chronic group (N=228, AS=144): Pat. Global ($p<0.05$), ESR ($p<0.05$).

Conclusion: Hip joint lesion are closely related to sacroiliac joint lesion and HLA-B27 positive in AS. Hip pain is the main clinical manifestation of hip joint lesion in AS. Hip joint lesion may lead to function declines, disease activity in AS.

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AB0692

CLINICAL SIGNIFICANCE OF LIPID PROFILES IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS

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Background: Axial spondyloarthritis (axSpA) is a chronic inflammatory disease of the sacroiliac joints and spine. Lipid profiles, including total cholesterol(TC),

high-density lipoprotein cholesterol(HDL-c), low-density lipoprotein cholesterol (LDL-c), TC/HDL-c, triglycerides(TG), have been reported to be changed regularly in axSpA patients. However, the clinical significance of lipid profiles in axSpA patients is controversial.

Objectives: The study aims to determine the clinical significance of TC, HDL-c, LDL-c, TC/HDL-c, TG for axSpA patients.

Methods: A total of 208 axSpA patients and 113 healthy subjects were enrolled in the study retrospectively. TC, HDL-c, LDL-c, TC/HDL-c, TG, C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), Bath Ankylosing Spondylitis Disease Activity Index(BASDAI) were collected. AxSpA patients were divided into remission axSpA group(BASDAI<4, n=123) and active axSpA group(BASDAI≥4, n=85). Relationships between the parameters were assessed by the Spearman's correlations analysis. Receiver operation characteristic (ROC) curves were used to discriminate axSpA patients from healthy subjects and active axSpA group from remission axSpA group.

Results: TC, HDL-c, and TG in axSpA group were lower than those of control group, while TC/HDL-c was higher ($P<0.05$). ROC curve results showed that the AUC value of HDL-c for axSpA was 0.790 (CI95%: 0.740-0.839), yielding a highest AUC value. The optimal cutoff value of HDL-c for axSpA was 1.095, with the Youden index of 0.496, sensitivity of 65.5% and specificity of 84.1%. HDL-c was negatively correlated with BASDAI ($r=-0.159$, $P=0.022$). TC/HDL-c was positively correlated with BASDAI ($r=0.183$, $P=0.008$). Besides, TC/HDL-c, CRP, ESR in active axSpA group were higher than those of remission axSpA group, while HDL-c was lower ($P<0.05$). ROC curve results showed that the AUC value of TC/HDL-c and CRP for active axSpA group were 0.621 (CI95%: 0.543-0.700) and 0.634 (CI95%: 0.556-0.712), yielding a higher AUC value than other parameters. The optimal cutoff value of TC/HDL-c for active axSpA group was 4.429, with the Youden index of 0.201, sensitivity of 40.2% and specificity of 79.9%.

Conclusion: HDL-c was decreased in axSpA patients with a highest diagnostic value, compared with healthy control. TC/HDL-c was elevated in active axSpA patients, showing a significant correlation to the disease activity of axSpA.

Figure.1 ROC curves was used to discriminate active axSpA group from remission axSpA group.

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AB0693

TIM-3-EXPRESSING NEUTROPHILS AS A NOVEL INDICATOR TO ASSESS DISEASE ACTIVITY AND SEVERITY IN ANKYLOSING SPONDYLITIS

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Background: Ankylosing spondylitis (AS) is a type of chronic inflammatory disease that compromises the axial skeleton and sacroiliac joints. Many studies have shown that neutrophils play an important roles in the inflammatory process of AS. However, the immunomodulatory roles and mechanisms of neutrophils in AS are poorly understood. T-cell immunoglobulin and mucin domain-containing protein

3 (Tim-3) has been reported as an important regulatory molecule, expressed and regulated on different innate immune cells, plays a pivotal role in several autoimmunity diseases. Recent study indicates that Tim3 is also expressed on neutrophils. However, the frequency and roles of Tim3-expressing neutrophils in AS was not clear.

Objectives: In this study, we investigated the expression of Tim3 on neutrophils in AS patients and analyzed the correlation between the level of Tim3-expressing neutrophils and the disease activity of AS.

Methods: AS Patients were recruited from Guangdong Second Provincial General Hospital (n=49). Age/sex-matched volunteers as Healthy controls (HC) (n=39). The medical history, clinical manifestations, physical examination, laboratory measurements were recorded. The expression of costimulatory molecules including programmed death 1 (PD-1), Tim-3 on neutrophils were determined by flow cytometry. The frequencies of Tim3-expressing neutrophils in AS patients were further analyzed for their correlation with markers of inflammation ESR and CRP, disease activity and severity of AS.

Results: The expression of Tim3 on neutrophils in patients with AS was increased compared to the HC (Figure 1A). The frequency of Tim3-expressing neutrophils in patients with AS showed an positive correlation with ESR, CRP and ASDAS-endorsed disease activity score (ASDAS) (Figure 1B). Moreover, the frequency of Tim3-expressing neutrophils in active patients (ASDAS $\geq$ 1.3) was increased as compare with the inactive patients (ASDAS<1.3) (Figure 1C).

Conclusion: Increased Tim-3 expression on neutrophils may be a novel indicator to assess disease activity and severity in AS, which may serves as a negative feedback mechanism preventing potential tissue damage caused by excessive inflammatory responses in AS patients.

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Figure 1. (A)The expression of Tim3 on neutrophils in AS and HC.(B)The correlation between Tim3-expressing neutrophils and ESR,CRP,ASDAS.(C) The expression of Tim3 on neutrophils in active and inactive patients.

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AB0694

IS THERE ANY HETEROGENEITY OF SPONDYLOARTHRITIS DISEASE MANIFESTATIONS BETWEEN TWO ETHNIC SUBGROUPS?:A MULTICENTRE INTERNATIONAL COMPARATIVE STUDY BETWEEN INDIA AND UK

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Background: Pathogenesis of Spondyloarthritis (SpA) multifactorial and remains unclear. Various hypothesis have been postulated genetics, HLAB27, IL17, Gut microbiome and Biomechanical stress. Many of these factors can be attributed to ethnic background and environment. HLAB27 accounts for 20–25 % of total heritability and 40% of genetic risk while <10% of HLA-B27 carriers in general population develop SpA¹. Higher faecal calprotectin levels in SpA compared to control point towards microscopic gut inflammation². Thus dietary habits and geographical factors can influence pathogenesis of disease. We looked in clinical manifestations of SpA patients of two very different ethnic background Caucasians and Indians from UK and India to shed more light in understanding the disease

Objectives: To study any differences in the clinical manifestations of SpA patients of two ethnic groups

To compare outcome measure (BASDAI and ASDAS) between Caucasians and Indians

To study the difference in disease activity between Indian patients and British Asians

Methods: Multicentre observation study where data of SpA patients attending rheumatology clinics from two major teaching hospitals collected. In India data collected from Sheth VS Hospital and NHL Medical College, Gujarat and in United Kingdom from University Hospitals Leicester, NHS trust. Leicester has a multi-ethnic demography wherein almost 30%³ of population is of south Asian ethnicity, making this study unique.

Baseline demographic and clinical data was collected. Clinical and outcome measures compared to see any heterogeneity in disease manifestations. SPSS software used

Results: Total 200 patients analysed with 148 Indians and 52 Caucasians. The Indian cohort was subdivided into British Asians (second generation Indians) and those from Gujarat, India

We found Indian subgroups were younger with shorter disease duration. Comparison in Table 1

Table 1.

	Caucasian	Indian	P
Age	45.9±12	31±12	<0.001
M:F	34:19	3:1	0.74
TDI years	9.6 ±5.9	3.5± 5.2	<0.001
BASDAI	4.05±2.17	3.1±1.7	0.002
ASDAS	2±0.8	2.4±1.2	0.02
CRP	12.8±23.6	24±12	<0.001
HLAB27	67%	26%	<0.001
Uveitis	25%	12%	0.02
IBP	78%	90%	0.03
Enthesitis	21%	60%	<0.001
Peripheral Arthritis	19%	36%	0.02
Dactylitis	2%	10%	0.07
Psoriasis	10%	20%	0.1
IBD	2%	5%	0.35

Comparing British Asians to Indians, Gujarat no significant difference in clinical parameters. (Table 2)

Table 2.

	British Asian	Indian	P
BASDAI	5.16±2.76	3.1±1.7	0.006
ASDAS	2.53±1.3	2.4±1.2	0.74
CRP	15.2 ±15.4	24±12	<0.001

Conclusion: We found Caucasians had more HLAB27 positivity and extra-articular manifestation of uveitis however the Indian population has