Methods: Patients with SpA diagnosed according to the assessment of Spondyloarthritis International Society criteria were included in this retrospective cross-sectional study.

The modified Stoke Ankylosing Spondylitis Spine Score (mSASSS) and the Bath Ankylosing Spondylitis Radiology Index-spine (BASRI-s) were used to assess the radiographic involvement of the spine.

The sacroiliac joints were scored according to the modified New York criteria. Radiological hip involvement was scored using the Bath Ankylosing Spondylitis Radiology Index hip (BASRI-h).

Patients were divided into two groups: G0 including patients without hip involvement and G1 patients with hip involvement.

Results: We included 112 patients with a sex ratio of 2.4. The average SpA symptom duration was 9.33 ± 8.93 years. The diagnostic delay was 42.92 ± 52 months.

Radiographic hip involvement was noted in 39.28% of cases. It was bilateral in 31 patients (70.4%). The total number of coxitis was 75. Severe and moderate hip involvement (BASRI-h ≥ 3) affected 21 hips. The most common radiographic pattern was early coxitis ($n=31$, 41.3%) followed by the destructive form ($n=22$, 29.3%), mimicking-osteoarthritis form ($n=15$, 20%), condensing form ($n=5$, 6.6%) and ankylosing form ($n=2$, 2%).

Radiographic sacroiliitis was noted in 75.8% of patients. It was bilateral in 91.7% of cases. Among the 161 sacroiliac joints fulfilling the m-New-york criteria, 32.9% had grade 4 and 37.2% had grade 3.

The mean mSASSS was 10.26 ± 15 . The mean BASRI-t, BASRI-C, and BASRI-L were 3.99 ± 2.9 , 0.89 ± 1.3 , and 1.1 ± 1.3 respectively.

Radiographic sacroiliitis was more common in patients with hip involvement (G1) (90.9% vs 68.2%, $p=0.00$). Patients in G1 had higher mSASSS (15.78 ± 18.24 vs 6.29 ± 11.85 , $p=0.01$), BASRI-L (1.73 ± 1.46 vs 0.75 ± 1.131 , $p=0.009$), and BASRI-s (5.46 ± 3.02 vs 3.19 ± 2.46 , $p < 10^{-3}$) than patients in G2. There was no significant difference between the two groups regarding the BASRI-C.

Multivariable analysis revealed that radiographic sacroiliitis was associated with hip involvement (OR=14.81, 95%, [1.1-198], $p=0.042$).

When comparing patients with severe and moderate hip involvement (BASRI-h ≥ 3) and those with mild involvement, we didn't find significant differences regarding BASRI-t, BASRI-L, BASRI-C, mSASSS, and sacroiliac involvement.

Conclusion: As reported in previous studies [1], we concluded that structural axial lesions were higher in patients with coxitis. Structural damage to the sacroiliac joint in SpA was predictive of hip involvement.

We suggest that sacroiliitis, spinal and hip involvement are part of the same spectrum.

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AB0725 FACTORS ASSOCIATED WITH RADIOGRAPHIC SPINAL INVOLVEMENT IN SPONDYLOARTHRITIS

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Background: Spondyloarthritis (SpA) is characterized by significant radiographic changes in the spine. The structural spine damage can be assessed using several scorings such as the Bath AS Radiology Index (BASRI) and the modified Stoke Ankylosing Spondylitis Spine Score (mSASSS).

Objectives: We aimed to identify factors associated with structural damage in the spine using these scores.

Methods: We conducted a cross-sectional study including patients with SpA diagnosed according to the assessment of Spondyloarthritis International Society criteria.

To assess the radiographic involvement of the spine, we used the mSASSS, the BASRI-spine (BASRI-S), the BASRI-lumbar (BASRI-L) and the BASRI-cervical (BASRI-C).

Disease activity was assessed using the BASDAI and ASDAS-CRP.

Results: Among the 112 patients, 72.32% were men. The mean age was 43.78 ± 12.91 years. The mean age at diagnosis was 37.8 ± 13.45 years. The diagnostic delay of 37.8 ± 46 months.

Forty-nine patients were smokers (43.8%).

The mean BASDAI score and ASDAS-CRP score were 4.04 ± 1.99 and 3.30 ± 0.87 .

The mean ESR and CRP were 36.21 ± 27 (mm/H) and 31.28 ± 47.25 mg/L.

The mean BASRI-S was 3.99 ± 21.96 and the mean mSASSS was 10.26 ± 15.41 . Twenty-five patients (22.3%) had non-radiographic axial SpA.

Men had higher BASRI-L (1.36 vs 0.7 , $p=0.045$) and BASRI-S (4.3 vs 3.09 ; $p=0.047$) than women.

Moreover, smokers' patients had higher mSASSS (14.07 vs 7.02 ; $p=0.031$), BASRI-C (1.23 vs 0.62 ; $p=0.031$), and BASRI-S (4.82 vs 3.35 ; $p=0.009$) than non-smokers' patients.

A positive correlation was noted between age and BASRI-C ($r=0.260$, $p=0.012$). There was no correlation between age at the onset of SpA and structural spine damage.

We found a positive correlation between disease duration and the following scores: BASRI-C ($r=0.245$, $p=0.018$) and BASRI-S ($r=0.274$, $p=0.003$).

Patients with non-radiographic axial SpA had lower mSASSS (4.05 vs 12.14 ; $p=0.034$), BASRI-s (1.2 vs 4.9 ; $p < 10^{-3}$), and BASRI-L (0.42 vs 1.4 ; $p=0.003$) than patients with radiographic axial SpA.

There was no correlation between the radiographic index and BASDAI and ASDAS-CRP.

Conclusion: We confirmed previous observations that male gender, smoking and disease duration are associated with structural damage in the spine [1].

However, CRP and other inflammatory biomarkers were not associated with radiographic evidence of spine involvement.

As observed in previous studies, the radiographic spine damage did not correlate with disease activity (BASDAI) [1].

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AB0726 CHOROIDAL THICKNESS IS A BIOMARKER AND CAN PREDICT THE RESPONSE TO TREATMENT IN ANKYLOSING SPONDYLITIS

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Background: Choroidal thickness (CT) has been proposed and evaluated as a potential marker of systemic inflammation associated with inflammatory diseases as Ankylosing spondylitis (AS). Patients with active AS have a thicker choroid than healthy subjects, regardless of eye inflammation. The evolution of choroid after treatment is poorly known.

Objectives: This study evaluates the CT of patients with severe AS disease activity before and after six months of biological therapy.

Methods: This prospective multicenter study evaluates the CT in 44 patients with high AS disease activity, naïve for biological treatment, and no history of eye inflammation before and after six months of biological therapy, aged from 18 to 65 years. The correlations between the CT and C-reactive protein (CRP) with the disease activity indices and scales as Bath Ankylosing Spondylitis Disease Activity Index (BASDAI), night pain and Patient Global Assessment (PGA) were calculated at baseline and after six months of biological therapy. The concordance between the CT and CRP was determined. Finally, we assessed potential predictors of response to treatment. Clinically important improvement was defined as a decrease in ASDAS score ≥ 1.1 points.

Results: Globally, 44 eyes of 44 patients aged between 18-65 years were included in the study, 12 (27%) women. The biological treatments prescribed were: Adalimumab 13 (29.5%), Certolizumab 9 (20.5%), Secukinumab 10 (20%), Etanercept 8 (18%), Infliximab 3 (6.8%), and Golimumab 1 (2.2%).

Mean CT values were significantly higher at baseline than after six months of treatment (baseline 355.28 ± 80.46 μ m; 6 months, 341.26 ± 81.06 μ m) ($p < 0.001$).

CT decreased both in patients on biological treatment without effect in eye (Secukinumab and Etanercept; $p=0.024$) and in patients on treatment with effect in eye (other; $p=0.005$). Also, CRP, BASDAI, night pain and PGA decreased after six months of treatment ($p < 0.001$, $p < 0.001$, $p < 0.001$, $p < 0.001$). We found a 95% concordance between CT and CRP at baseline and 6 months.

Multivariable analysis showed that clinically important improvement was associated with higher CT and age as independent factors (OR 0.97, CI95% 0.91-0.93; $p=0.009$, and OR 0.81, CI95% 0.70-0.95; $p=0.005$). Clinically important improvement was associated with basal CT > 374 μ m (sensitivity 78 %, [CI 95% 60-90], specificity 78% [CI 95% 52-92], area under the curve of ROC, 0.70, likelihood ratio 3.6).

Conclusion: CT decreased significantly after six months of biological treatment. CT and CPR had a 95% concordance. A high CT is associated with risk of failure

to biological treatment. CT can be considered as a useful biomarker of inflammation and predictor of response to treatment in AS.

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AB0727

WORK OUTCOMES AND ASSOCIATED FACTORS IN ANKYLOSING SPONDYLITIS PATIENTS IN CHINA

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Background: Poorer work productivity due to pain and functional impairment is commonly seen in ankylosing spondylitis (AS) patients, which may contribute to huge social economic burden. However, data about work outcomes and associated factors in Chinese AS patients were barely reported.

Objectives: To assess work outcomes and identify factors associated with poor work productivity in patients with AS in China.

Methods: A cross-sectional study was conducted in China. Adult patients (aged ≥ 18 years) fulfilled the 1984 New York modified criteria of AS were enrolled from rheumatology center from Jan 2017 to Aug 2017. All participants completed questionnaires about socio-demographic characteristics, disease characteristics, quality of life and the Work productivity and activity impairment questionnaire in AS (WPAI:SpA) to accesses the impact of chronic health conditions on job performance and productivity. Factors associated with work outcomes were evaluated.

Results: A total of 91 patients with AS were included: 87.8% males, 78.02% employed, mean age and disease duration of 30 and 10 years respectively. The mean (SD) activity impairment of all patients was 48.57% (22.02%). For patients with employed work, mean (SD) absenteeism, presenteeism and work productivity loss were 10.22% (19.44%), 43.86% (22.48%) and 47.92% (25.81%) respectively. In multivariable analysis, activity impairment was associated with Bath Ankylosing Spondylitis Functional Index (BASFI) ($P<0.01$) and Ankylosing Spondylitis Quality of Life (ASQoL) ($P<0.01$). Absenteeism was associated with disease duration ($P=0.03$). Presenteeism was associated with disease duration ($P=0.04$), BASFI ($P<0.01$) and ASQoL ($P<0.01$). Work productivity loss was associated with BASFI ($P<0.01$) and ASQoL ($P<0.01$).

Conclusion: Longer disease duration, reduced physical function and poorer quality of life are associated with reduced work productivity in Chinese AS patients.

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AB0728

MICROVASCULAR CHANGES OF THE RETINA IN ANKYLOSING SPONDYLITIS, AND THE ASSOCIATION WITH CARDIOVASCULAR DISEASE – THE EYE FOR A HEART STUDY.

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Background: Patients with ankylosing spondylitis (AS) have an increased risk at cardiovascular disease (CVD). Microvasculature changes might precede overt CVD, but have been poorly studied in AS. The small vessels of the retina are accessible for non-invasive visualization, and microvascular changes (retinal arteriolar narrowing, venular widening, loss of tortuosity) are described in association with CVD in other diseases.

Objectives: The aim of this study was to compare the retinal microvasculature of AS patients with healthy controls, and to assess gender differences.

Methods: A cross-sectional, case-control study comparing AS patients (fulfilling the modified New York criteria, Rheumatology outpatient clinic of Reade and Amsterdam UMC) with healthy controls (EMIF-AD PreClinAD cohort of the Dutch Twins Register(1)), men:women=1:1. Most important inclusion criteria were: age 50-75 years, diabetes mellitus was excluded. All subjects underwent Optical Coherence Tomography Angiography and fundus photography (≥ 1 eye), analyzed with Singapore I Vessel Assessment software (Table 2). Differences between AS and controls were evaluated with generalised estimating equations (GEE), adjusted for demographics and cardiovascular risk, and stratified for gender.

Results: In total, 59 AS patients (mean disease duration 36 years) and 105 controls were included. Controls were significantly older than patients, but did not differ in cardiovascular profile (Table 1). Patients had a significantly lower retinal arteriolar tortuosity (β -0.1; $p=0.02$), and higher vessel density (β 0.5, $p=0.02$), than controls (Table 2). Also, male AS patients showed a lower arteriovenular ratio compared to male controls (β -0.03, $p=0.04$). There were no differences between women with and without AS. In AS, a high disease activity was associated with a wider (unfavorable) venular diameter ($p=0.05$), whereas biologic use showed a wider (more favorable) arteriolar diameter ($p<0.01$).

Conclusion: This study detected several retinal microvascular changes, in AS patients compared to controls, of which some are associated with CVD based on previous studies. Some changes were only observed in male-, but not in female, patients. A new finding was an increased capillary density in AS, of which the association with CVD-risk has not yet been studied before.

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Table 1. Patient characteristics AS (n=57) and controls (n=105)

	AS	Controls	p
Gender, women (%)	30 (51)	52 (50)	ns
Age, mean yrs (SD)	60 (6)	68 (4)	<0.01
Smoking currently, yes (%)	11 (19)	8 (8)	0.06
Body mass index, mean (SD)	26 (4)	26 (3)	ns
Hypertension, yes (%)	23 (39)	39 (37)	ns
Dyslipidemia, yes (%)	9 (15)	18 (17)	ns
Cardiovascular disease history, yes (%)	9 (15)	15 (14)	ns
NSAIDs (%)	24 (41)	6 (6)	<0.01
Biological (mostly TNF inhibitor)* (%)	29 (49)	0 (0)	<0.01
AS Disease Activity Score, mean (SD)	2.1 $\pm$ 0.9		

Table 2. Retinal vascular parameters, differences AS and Control subjects

Retinal vascular parameters	Crude			Adjusted for: Age, gender, BMI smoking, hypertension, dyslipidemia		
	β	(95%CI)	p	β	(95%CI)	p
Diameter						
Arteriolar	1.6	(-2.0, 5.2)	0.37	-0.2	(-4.8, 4.4)	0.92
Venular	5.4	(-0.66, 11.5)	0.08	2.5	(-5.4, 10.4)	0.53
Arteriovenular ratio	-0.01	(-0.03, 0.01)	0.43	-0.01	(-0.03, 0.02)	0.65
Tortuosity	-0.05	(-0.12, 0.03)	0.19	-0.1	(-0.2, -0.01)	0.02
Complexity	0.01	(0.00, 0.03)	0.04	0.0	(-0.02, 0.02)	0.88
dimension						
Vessel Inner ring	0.8	(0.5, 1.1)	<0.001	0.5	(0.1, 0.9)	0.02
Density Outer ring	0.7	(0.4, 1.0)	<0.001	0.2	(-0.2, 0.6)	0.42

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