on the discrimination between AS patients and controls (AUC 0.827 in young males).

Table 1. Demographic and clinical characteristics

	nr-axSpA	AS	control
	n = 150	n = 58	n = 14
Age, y (mean, SD)	31 (6.9)	32 (7.4)	30 (7.0)
Male, n (%)	68 (45.3)	26 (44.8)	4 (28.5)
Symptom duration, m (median, IQR)	35 (13 - 98)	111 (27 - 176)	-
HLA B27 positive, n (%)	103 (68.7)	48 (82.8)	-
Peripheral manifestations, n (%)	41 (27.3)	18 (31.0)	-
Extra-articular manifestations, n (%)	32 (21.3)	19 (32.8)	-
BASDAI (mean, SD)	4.4 (1.97)	4.1 (2.03)	-
CRP > ULN, n (%)	45 (30.0)	33 (56.9)	-

Table 2. Performance of anti-CD74 IgA in discriminating nr-axSpA from controls, according to sex and age (young: <32 y/o). AUC= area under the curve, PPV/NPV = positive/negative predictive value, LR+ = positive likelihood ratio.

	Cut-off (U/mL)	AUC	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	LR+
Male & young	16.9	0.806	65.8	92.3	96.2	48.0	8.6
Male & old	17.4	0.795	55.6	92.3	93.8	50.0	7.2
Female & young	16.7	0.647	50.0	92.3	94.4	41.4	6.5
Female & old	16.9	0.741	46.8	92.3	95.7	42.2	6.0

Figure 1. Univariate comparison of anti-CD74 IgA concentrations between nr-axSpA, AS and control patients (<45 y/o).

Conclusion: In this study, mean anti-CD74 IgA concentrations were higher in axial SpA patients compared to non-SpA controls. Application of this biomarker in young (<32 y/o) male nr-axSpA or AS patients yielded the highest sensitivity and specificity.

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FRI0313

DOES INTERSTITIAL LUNG DISEASE REPRESENT A REAL COMORBIDITY IN SPONDYLOARTHRITIS PATIENTS? RESULTS FROM AN ULTRASOUND MONOCENTRIC PILOT STUDY

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Background: Interstitial lung disease (ILD) is a frequent complication in rheumatoid arthritis (RA) where it represents the most common extra-articular involvement (with a prevalence of about 10-60%) and the second cause of mortality (after cardiovascular diseases). Spondyloarthritis (SpA) are chronic arthritides that share with RA both a similar disease burden and similar therapeutical approaches. ILD evaluation is challenging, given the low sensitivity of X-ray and pulmonary function tests, and radiation linked to repetitive HRCT. Lung Ultrasound (LUS) has shown potential in the evaluation of ILD in autoimmune diseases.

Objectives: To assess the prevalence of ILD in a cohort of SpA patients (pts) using LUS with respect to healthy controls (HC).

Methods: Consecutive SpA out-pts were examined by LUS, applying the definition for pleural line irregularity (PLI) recently provided by the OMERACT taskforce for LUS in systemic sclerosis (1). Seventy-one intercostal spaces were studied (14 in the anterior chest, 27 lateral and 30 posterior) in all the pts/HC using an Esaote MyLab25 Gold US machine with a linear 7.5-10 MHz probe. The scoring system by Pinal-Fernandez et al (2) was applied and a total pleural score was calculated. Each patient answered to Italian-validated PROs on respiratory function (Leicester and Saint-George), global health (SF-36) and dyspnea (mMRC scale). Clinical data on disease-duration, disease-onset, disease-activity (at the moment of the examination) and MTX/biologics treatment were collected from the medical records.

Results: Fifty-six SpA pts (35 psoriatic arthritis -PsA- and 21 ankylosing spondylitis -AS-) and 56 HC were studied. No significant differences were demonstrated between groups (SpA vs HC and PsA vs AS) for age, sex, BMI and smoking habits. The total pleural score was significantly higher in SpA pts than in HC (20.9±11.8 vs 10.3±7.7; p<0.001). A positive correlation was found between total PLI score and PLI score from anterior, posterior and lateral chest. The posterior part of the chest showed a higher PLI score than the anterior and lateral one (with the latter resulting to be significantly lower than the posterior PLI score). Higher differences in the PLI average value between SpA pts and HC were registered for posterior and anterior part of the chest. No differences were found between PsA and AS (with a not statistically significant difference in the posterior PLI score, which was slightly higher in AS pts) (Tab.I).

Table 1. average PLI score (N±SD)

	Total	Anterior	Posterior	Lateral
HC	10.3 ± 7.7	4 ± 3.2	5 ± 3.7	1.4 ± 2.2
PsA	20.1 ± 12.5	6.8 ± 3.9	10.2 ± 6.9	2.9 ± 4.1
AS	22.1 ± 10.7	7 ± 2.8	12 ± 9.5	3 ± 3.1

Conclusion: LUS examination shows a higher amount of PLI in SpA with respect to HC.

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FRI0314

ANNUAL DIAGNOSTIC PREVALENCE OF ANKYLOSING SPONDYLITIS (AS) IN THE UNITED STATES USING MEDICARE AND MARKETSCAN DATA

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Background: Axial spondyloarthritis (axSpA) is a chronic inflammatory disease that affects the axial skeleton and sacroiliac joints, and can be classified as ankylosing spondylitis (AS) or non-radiographic (nr)-axSpA.¹ A 2016 analysis estimated the US diagnostic prevalence of axSpA to be 0.2% and AS to be 0.1%.² Previous studies use disparate populations and diagnostic definitions;^{3,4} it is therefore unclear how AS prevalence has changed over time.

Objectives: To investigate the annual diagnostic prevalence of AS in US health-care insurance claims databases.

Methods: A retrospective, observational cohort study was conducted using 2006–2014 data from US Medicare Fee-for-Service Claims (5% random sample of all enrolled patients [pts]) and Truven MarketScan®. Eligible pts were ≥20 years (yrs) and had ≥6 months of continuous medical and pharmacy enrolment prior to diagnosis. Diagnoses used relevant International Classification of Disease, 9th version (ICD-9) diagnosis codes: ICD-9 720.x [x=any number] for “AS and other inflammatory spondylopathies [SpA]” or 720.0 for “AS”. Two diagnosis definitions were used: Definition 1, ≥1 relevant ICD-9 code from hospital discharge or ≥2 from rheumatologist visit; Definition 2, ≥1 relevant ICD-9 code from hospital discharge or rheumatologist visit. Annual diagnostic prevalence of SpA/AS was calculated as “number of enrolled pts who met the definition of SpA/AS within each calendar yr and had full insurance coverage (medical and pharmacy)”, divided by “total number of pts with full insurance coverage in the same yr”. A primary analysis of SpA prevalence rates used Definitions 1 and 2, followed by a sensitivity analysis for AS prevalence rates using only Definition 2. All prevalence rates are shown per 10,000 pts enrolled.

Results: The annual diagnostic prevalence of SpA appeared to increase from 2006–2014 (Table). Similarly, the sensitivity analysis showed the annual diagnostic prevalence of AS appeared to increase during the period from 2006 (Medicare: 2.87/10,000 pts [n=501,031]; MarketScan: 1.37/10,000 pts [n=17,562,637]) to 2014 (Medicare: 4.77/10,000 pts [n=1,046,107]; MarketScan: 2.14/10,000 pts [n=34,553,135]; Figure).

Conclusion: The apparent increase in diagnostic prevalence of SpA and AS during the period from 2006–2014 may be a consequence of increased awareness and availability of effective treatments. Furthermore, the 2009 Assessment of SpondyloArthritis international Society development of the axSpA classification criteria to include pts with both established AS and nr-axSpA may have accelerated this increase.⁵

References:

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Table. Prevalence of SpA by calendar year and data source

Medicare (5% random sample)				MarketScan		
Calendar yr	Total number of eligible pts	Prevalence/ 10,000 pts		Total number of eligible pts	Prevalence/10,000 pts	
		Definition 1	Definition 2		Definition 1	Definition 2
2006	501,031	4.39	7.62	17,562,637	1.33	2.17
2007	816,970	5.25	8.72	19,518,066	1.47	2.37
2008	825,445	4.89	8.78	28,603,525	1.58	2.53
2009	830,967	5.22	9.21	31,757,069	1.90	3.09
2010	844,528	5.49	9.90	31,126,172	1.96	3.17
2011	879,996	6.30	10.71	38,295,121	1.94	3.11
2012	921,994	6.17	10.88	40,320,437	1.91	3.04
2013	1,032,827	6.74	10.82	33,826,041	2.00	3.19
2014	1,046,107	6.52	10.85	34,553,135	2.21	3.51

Medicare data included a 5% random sample of all enrolled pts age ≥20 yrs. pts: patients; SpA: ankylosing spondylitis and other inflammatory spondylopathies; yr: year.

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Figure. Prevalence of AS (Definition 2) by calendar year and data source

Medicare data included a 5% random sample of all enrolled pts age ≥20 yrs. AS was defined according to Definition 2. AS: ankylosing spondylitis; pts: patients; yr: year.

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FRI0315 GENDER DIFFERENCES IN PATIENT JOURNEY TO DIAGNOSIS AND PATIENT-REPORTED OUTCOMES: RESULTS FROM THE EUROPEAN MAP OF AXIAL SPONDYLOARTHRITIS (EMAS)

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Background: Growing evidence of similarities in male-female prevalence of axial spondyloarthritis (axSpA) has stimulated the need to evaluate gender differences in patient experiences.

Objectives: To evaluate gender differences in diagnostic journey, disease-characteristics and patient-reported outcomes (PROs) in axSpA patients.

Methods: Data from 2846 unselected patients of the European Map of Axial Spondyloarthritis (EMAS) through an online survey (2017-2018) across 13 countries were analysed. Socio-demographic characteristics, diagnosis, disease-characteristics, and PROs [BASDAI (0-10), spinal stiffness (3-12), functional limitation (0-54) and psychological distress (0-12, GHQ-12)] were compared between genders. X² (for categorical variables) and student-t (for continuous variables) were employed.

Results: 1,746 (61.3%) females participated in the EMAS, with homogeneous gender distribution across most countries (Fig 1). Compared to males, females reported longer diagnostic delay (6.1±7.4 vs 8.2±8.9; p<0.001), more visits to physiotherapists (34.5% vs 49.5%; p<0.001) and osteopaths (13.3% vs 24.4%; p<0.001) before being diagnosed (Table 1), higher disease activity in all BASDAI items and greater functional limitation, psychological distress and self-reported anxiety and depression (Table 2).

Figure 1. Countries' sample distribution stratified by gender (N: 2846)