

Supplementary Table S1. Variables collected at baseline that had been reported to be relevant for radiographic progression in the literature.

Patients' characteristics
Age
Gender
Ethnic group
Body mass index
Smoking status
Educational level
Profession (white collar vs. blue collar job)
Disease general characteristics
HLA-B27 status
Peripheral articular manifestations: arthritis or enthesitis (history or current)
Extra-articular manifestations (history or current)
Family history of SpA features
Symptoms duration
History of uveitis
History of psoriasis
History of inflammatory bowel disease
History of dactylitis
Disease activity
CRP
BASDAI
ASDAS-CRP
Number of tender joint
Number of swollen joint
Number of painful entheses
Function
BASFI
Treatment
Non-steroidal anti-inflammatory (NSAID) consumption
Responsiveness to NSAID
Imaging
mNY criteria
mNY score
mSASSS score
MRI sacroiliitis
MRI SIJ SPondyloArthritis Research Consortium of Canada (SPARCC) score
MRI Spine SPARCC score

Supplementary Table S2. Traditional models.

Model name	Method	Variables in the model	<i>p</i> -value of variables	OR (95%CI) of variables	AIC	CV AUC (10 -fold)	Brier score	Hosmer-Lemeshow
M2	stepAIC	mNY score	<0.001	1.74 (1.44–2.14)	304.91	0.79	0.160	0.13
		mSASSS score	0.002	1.53 (1.19–2.03)				
		smoking status	0.035	1.86 (1.04–3.30)				
		number of painful entheses	0.035	1.06 (1.00–1.11)				
M3	LASSO	mNY score	<0.001	1.77 (1.46–2.19)	306.16	0.78	0.159	0.35
		mSASSS score	0.009	1.46 (1.12–1.97)				
		smoking status	0.027	1.93 (1.08–3.45)				
		number of painful entheses	0.041	1.06 (1.00–1.11)				
		age	0.0389	1.02 (0.98–1.05)				
M4	Manual backward	mNY score	0.022	1.20 (0.69–2.08)	311.47	0.75	0.168	0.63
		mSASSS score	0.007	1.29 (0.71–2.33)				
		MRI SIJ SPARCC score	0.018	1.04 (0.81–1.34)				

OR: odds ratio; CI95%: 95% confidence interval; AUC: area under the curve; CV: cross-validated; AIC: Akaike information criterion; LASSO: least absolute shrinkage and selection operator; mNY: modified New-York, mSASSS: modified Stoke Ankylosing Spondylitis Spinal Score; SPARCC: Spondylo-Arthritis Research Consortium of Canada.