

	Spinal stenosis	Calcifications	Vacuum phenomena	Osteophytes or hyperostosis	Fusions	Sum of all scores
Age	0.78***	0.74***	0.46***	0.73***	0.46***	0.78***
Height	-0.33***	-0.29***	-0.31***	-0.29***	-0.39***	-0.38***
Weight	0.00	-0.06	-0.12	-0.04	-0.18	-0.08
Body mass index	0.21*	0.11	0.04	0.13	0.02	0.13
sHGA	0.31***	0.27**	0.28***	0.18*	0.28***	0.31***
uHGA₂₄	-0.17*	-0.20*	-0.09	-0.23**	-0.11	-0.20*
cAKUSSI	0.72***	0.73***	0.45***	0.68***	0.42***	0.74***
mAKUSSI	0.68***	0.68***	0.41***	0.65***	0.41***	0.70***
Eye ochronosis	0.57***	0.58***	0.38***	0.56***	0.31***	0.60***
Ear ochronosis	0.47***	0.51***	0.27**	0.44***	0.21**	0.48***
Prostate stones[#]	0.02	0.04	0.07	0.03	0.03	0.05
Renal stones	0.08	0.09	0.02	0.12	-0.05	0.08
Bone mineral density, T score	0.51***(0.22*)	0.51***(0.22*)	0.40*** (0.26*)	0.43***	0.31***	0.53***
Fractures	0.09	0.14	-0.02	0.16	0.03	0.11
Ruptures	0.24**	0.27**	0.08	0.26**	0.15	0.25**
Aortic stenosis	0.30***	0.30**	0.14	0.31***	0.39***	0.34***
Aortic sclerosis	0.28**	0.28**	0.18*	0.29**	0.28**	0.31***
Hearing impairment	0.20*	0.19*	0.16	0.14	0.08	0.19*
Eardrum ochronosis	0.10	0.09	0.14	0.03	0.04	0.09
Joint pain	0.38***	0.39***	0.20*	0.33***	0.16*	0.37***
Non-spine osteoarticular disease	0.28** (0.230**)	0.27** (0.24*)	0.25** (0.29**)	0.20*	0.22**	0.30*** (0.33**)
Arthroscopies	0.14	0.16	0.10	0.16 (0.22*)	0.01	0.15 (0.20*)

Joint replacements	0.33***	0.33***	0.16	0.29**	0.31*** (0.22*)	0.34*** (0.29**)
Spine pain	0.28**	0.24**	0.18*	0.25**	0.18*	0.28**
Osteoarticular disease in the spine	0.75*** (0.56***)	0.70*** (0.48***)	0.50*** (0.30**)	0.70*** (0.49***)	0.42***(0.20*)	0.76*** (0.60***)
Kyphosis	-0.23**	-0.22*	-0.18*	-0.20*	-0.04	-0.22**
Scoliosis	0.19*	0.18*	0.14	0.24**	0.10	0.21*

Supplementary Table S4. Pearson's r coefficients for correlations between sum of radiographic scores in the spine (cervical + thoracic + lumbosacral) and baseline patient characteristics including cAKUSI components of 138 AKU patients except #92 male AKU patients for prostate stones. Serum concentration of homogentisic acid (sHGA). Urinary concentration of homogentisic acid (uHGA₂₄). Clinical alkaptonuria severity score index (cAKUSI). *p<0.05. **p<0.01. ***p<0.001. Numbers in brackets show age-adjusted partial correlation coefficient r, non-significant partial correlations not shown.