

## Clinical features of axial spondyloarthritis patients according to dominantly involved spine region

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**Background/Aims:** To analysis the differences in clinical features and radiologic bony progression of axial spondyloarthritis (axSpA) patients according to dominantly involved spine region (C- or L-spine). **Methods:** e included the axial SpA patients with lateral cervical and lumbar radiographs at the time of initial and at least two year later who visited our rheumatology clinic between January 2009 and February 2013. Demographic data, and initial and follow-up data of clinical manifestations, treatment and radiologic features were collected. The radiologic damage was assessed by modified Stoke Ankylosing Spondylitis Spinal Score (mSASSS). **Results:** A total of 185 patients were enrolled in the study. Fifty-five patients who showed persistently no radiologic damage and three patients who initial mSASSS were full were excluded. The remaining 127 patients were divided by initial mSASSS of C-spine and L- spine. Patients with mSASSS of C-spine higher than L-spine (more than 2 points) were classified as C-group, and those with opposite were classified as L-group. Fifty-five patient (44.4%) were L-group and 23 patients (18.5%) were C-group. Age at initial visit was younger in C-group patients than L-group, although no difference in age at disease onset. There were no differences in sex, presence of HLA-B27, peripheral symptoms, and extra-articular symptoms. Initial serum CRP level was higher in C-group patients. In L-group patients, there were more patients with initial SI grade 3 or 4, and initial mSASSS was higher. The X-ray interval was 4 years. There was no significant difference in overall radiological progression, but, in the C-group, the annual mSASSS changes of C-spine were significantly higher than L-spine ( $p<0.01$ ), and the opposite was also seen in the L-group. **Conclusions:** Patients with radiologically dominantly C-spine involvement were younger then L-spine patients and showed higher initial CRP level and lower SI grade and mSASSS. The mSASSS progression of spine region, which initially involved dominantly, was significantly higher than another region.

Table 1. Comparisons of clinical features and bony progression according to dominantly involved spine region<sup>a, b</sup>

	Total (n=127) <sup>a</sup>	L (n=55) <sup>a</sup>	C (n=23) <sup>a</sup>	p <sup>c</sup>
Age of disease onset, yr <sup>d</sup>	27 (20-34) <sup>a</sup>	27 (21-35) <sup>a</sup>	26 (20-36) <sup>a</sup>	0.99 <sup>e</sup>
Age at initial visit, yr <sup>d</sup>	39 (30-46) <sup>a</sup>	43 (36-50) <sup>a</sup>	37 (28-44) <sup>a</sup>	0.02 <sup>e</sup>
Male <sup>f</sup>	82.7 <sup>a</sup>	89.1 <sup>a</sup>	100 <sup>a</sup>	0.17 <sup>e</sup>
HLA-B27 <sup>d</sup>	90.4 <sup>a</sup>	92.5 <sup>a</sup>	95.7 <sup>a</sup>	1.00 <sup>e</sup>
Family history <sup>d</sup>	14.8 <sup>a</sup>	8.6 <sup>a</sup>	21.1 <sup>a</sup>	0.23 <sup>e</sup>
Peripheral symptoms <sup>d</sup>	70.0 <sup>a</sup>	73.3 <sup>a</sup>	70.0 <sup>a</sup>	1.00 <sup>e</sup>
X-ray interval, yr <sup>d</sup>	4.1 (2.3-6.8) <sup>a</sup>	4.0 (2.3-5.4) <sup>a</sup>	4.1 (3.0-7.6) <sup>a</sup>	0.20 <sup>e</sup>
<b>At the time of initial<sup>e</sup></b>				
CRP, mg/dl <sup>d</sup>	1.2 (0.3-2.9) <sup>a</sup>	1.2 (0.4-2.3) <sup>a</sup>	2.5 (0.9-5.8) <sup>a</sup>	0.03 <sup>e</sup>
ESR, mm/hr <sup>d</sup>	29 (14-51) <sup>a</sup>	24 (15-49) <sup>a</sup>	30 (14.5-62.5) <sup>a</sup>	0.72 <sup>e</sup>
SI grade 3 or 4 <sup>d</sup>	77.2 <sup>a</sup>	94.5 <sup>a</sup>	60.9 <sup>a</sup>	<0.01 <sup>e</sup>
mSASSS <sup>d</sup>	9 (2-25) <sup>a</sup>	22 (10-34) <sup>a</sup>	10 (6-18) <sup>a</sup>	0.05 <sup>e</sup>
L-spine <sup>d</sup>	4 (1-19) <sup>a</sup>	18 (8-26) <sup>a</sup>	2 (0-6) <sup>a</sup>	<0.01 <sup>e</sup>
C-spine <sup>d</sup>	2 (0-9) <sup>a</sup>	2 (0-9) <sup>a</sup>	9 (6-14) <sup>a</sup>	0.02 <sup>e</sup>
Syndesmophyte <sup>d</sup>	60.6 <sup>a</sup>	89.1 <sup>a</sup>	82.6 <sup>a</sup>	0.47 <sup>e</sup>
<b>At the time of follow-up<sup>e</sup></b>				
CRP, mg/dl <sup>d</sup>	0.2 (0.1-0.7) <sup>a</sup>	0.3 (0.1-0.9) <sup>a</sup>	0.3 (0.1-0.7) <sup>a</sup>	0.79 <sup>e</sup>
ESR, mm/hr <sup>d</sup>	12 (5-22) <sup>a</sup>	13 (6-22) <sup>a</sup>	8 (3-27) <sup>a</sup>	0.81 <sup>e</sup>
SI grade 3 or 4 <sup>d</sup>	85.4 <sup>a</sup>	96.3 <sup>a</sup>	77.3 <sup>a</sup>	0.02 <sup>e</sup>
mSASSS <sup>d</sup>	17 (4-37) <sup>a</sup>	31 (17-46) <sup>a</sup>	17 (13-37) <sup>a</sup>	0.21 <sup>e</sup>
L-spine <sup>d</sup>	8 (2-26) <sup>a</sup>	25 (12-32) <sup>a</sup>	6 (2-13) <sup>a</sup>	<0.01 <sup>e</sup>
C-spine <sup>d</sup>	6 (0-16) <sup>a</sup>	7 (0-18) <sup>a</sup>	13 (10-25) <sup>a</sup>	0.01 <sup>e</sup>
New syndesmophyte <sup>d</sup>	56.5 <sup>a</sup>	63.0 <sup>a</sup>	73.9 <sup>a</sup>	0.35 <sup>e</sup>
mSASSS change <sup>d</sup>	4 (1-9) <sup>a</sup>	5 (1-10) <sup>a</sup>	7 (2-16) <sup>a</sup>	0.20 <sup>e</sup>
Annual mSASSS change <sup>d</sup>	1.0 (0.2-2.4) <sup>a</sup>	1.3 (0.5-2.5) <sup>a</sup>	1.5 (0.8-2.3) <sup>a</sup>	0.78 <sup>e</sup>
L-spine <sup>d</sup>	0.4(0-1.3) <sup>a</sup>	0.7 (0-1.6) <sup>a</sup>	0.3 (0-1.2) <sup>a</sup>	0.59 <sup>e</sup>
C-spine <sup>d</sup>	0.1(0-1.0) <sup>a</sup>	0.1 (0-1.5) <sup>a</sup>	0.7 (0-1.5) <sup>a</sup>	0.36 <sup>e</sup>

<sup>a</sup>The data are presented as % of the patients for categorical variables and the median (interquartile range) for continuous variables; <sup>b</sup>comparisons between L-group and C-group were performed with the  $\chi^2$  test or Fisher's exact test for categorical variables and the  $t$  test for continuous variables, statistical significance was  $p<0.05$ .

## Effect of Fenofibrate on uric acid in patients with gout

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**Background/Aims:** Gout is a chronic disease associated with deposition of monosodium urate crystals and accompanied by diabetes, hypertension, and dyslipidemia. Hypertriglyceridemia is common among patients with gout, and fenofibrate is usually used to reduce levels of triglyceride. The aim of this study is to find the effect of uric acid reduction of fenofibrate in patient with gout who taking uric acid lowering agents. **Methods:** Data of 863 patient with gout were collected from electric medical records including underline diseases, laboratory results, and drug histories. **Results:** Among whole patients, 70 (8.11%) patients took fenofibrate with allopurinol or febuxostat. Male and young patients took fenofibrate more frequently (720/793, 90.8% vs 69/70, 98.6%,  $p=0.026$  and  $50.9 \pm 15.1$  vs.  $46.9 \pm 12.0$  years,  $p=0.012$ , respectively), and hypertension was less frequent (372/793, 46.9% vs 22/70, 31.4%,  $p=0.013$ ) in patients with xanthine oxidase inhibitors and fenofibrate than patients with only xanthine oxidase inhibitors. After the treatment, serum uric acid level were more significantly decreased ( $-1.81 \pm 2.41$  vs.  $-2.40 \pm 2.28$ ,  $p=0.043$ ) in patients with added fenofibrate treatment, compared to the patients with allopurinol or febuxostat. The effect of uric acid reduction was larger ( $b=-1.098$ ,  $p<0.001$ ) in the patients taking glucocorticoids. There was no difference creatinine, blood urea nitrogen and aminotransferases between the patient with fenofibrate and those not. **Conclusions:** Fenofibrate reduced uric acid levels by 23.2% (0.73mg/dL) without any change of renal or liver function test, suggesting the addition of fenofibrate is a reasonable option in patients with gout having high levels of tryglyceride.

