

ASSOCIATION BETWEEN SMOKING WITH SPINAL LEVEL OF STIFFNESS AND FUNCTIONAL LIMITATION IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS: RESULTS FROM THE SPANISH ATLAS

M. Garrido-Cumbrera¹, J. Chacón-García¹, J. Gratacos-Masmitja², D. Galvez-Ruiz¹, V. Navarro-Compan³, C. Blanch-Mur⁴, E. Collantes-Estevez⁵, P. Zarco-Montejo⁶, O. Brace¹. ¹Universidad de Sevilla, Seville; ²H. Parc Taulí, Sabadell; ³H. la Paz, Madrid; ⁴Novartis, Barcelona; ⁵Universidad de Córdoba, Cordova; ⁶H. Fundación Alarcón, Madrid, Spain

Background: Smoking has been associated with greater disease activity and radiographic progression in patients with Axial Spondyloarthritis (ax-SpA). In addition, radiographic damage has been linked to greater functional limitation. However, clarification is still being sought as to whether or not this association exists.

Objectives: To investigate the association between smoking and both the area of spinal stiffness and functional limitation in patients with ax-SpA.

Methods: A sample of 680 patients diagnosed with ax-SpA was interviewed during 2016 as part of the Spanish Atlas, which aims to promote early referral and improve healthcare and the use of effective treatments in patients with ax-SpA. Tobacco consumption was recorded as: Smoker (62.4%), Occasional Smoker (8.9%) and Non-Smoker (28.7%). Spinal stiffness was assessed in the three different vertebral areas: cervical, dorsal and lumbar.

To determine the degree of functional limitation we used a composed index which includes the sum of the degree of limitation in the 18 daily activities well established (dressing, grooming, bathing, tying shoelaces, moving around the home, stairs, getting to/out of bed, toilet, shopping, preparing meals, eating, cleaning, walking, using public transportation, going to the doctor, driving, physical exercise, sexual relations) using an ordinal variable (0=none, 1=little, 2=some and 3=moderate). A descriptive analysis was used to compare the level of stiffness (chi-squared test) and the mean degree of limitation (Kruskal-Wallis test) in the different groups of smokers consumptions. Regression analysis was also used to assess the relation between smoking and degree of limitation (0–54).

Results: 53% were females, mean age 46 years and 77.1% were HLA-B27+. The percentage of patients with stiffness in the lumbar region was significantly higher in habitual/occasional smokers than in non-smokers (89.0%, 93.8%, 83.5% respectively; $p < 0.01$) (Table). The mean degree of functional limitation increased with tobacco consumption, although this difference was not statistically significant (47.9±12.1 vs. 45.1±11.5 vs. 44.8±13.7 respectively; $p = 0.2$). However, regression analysis showed a statistically significant correlation between smoking and functional limitation ($r = 0.096$; $p = 0.02$).

Relationship between tobacco consumption and spinal stiffness levels in patients with ax-SpA

	Smoker	Occasional smoker	Non smoker	P	χ^2
Cervical stiffness	84.2%	77.1%	73.1%	0.171	9.044
Dorsal stiffness	76.0%	76.6%	72.4%	0.408	6.141
Lumbar stiffness	89.0%	93.8%	83.5%	0.002	20.518

Source: Spanish Atlas.

Conclusions: Smoking in patients with ax SpA is associated to greater stiffness in the lumbar region, but is not related to stiffness in the cervical or dorsal regions. Additionally, smoking is associated to the degree of functional limitation in these patients.

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