

THE INFLUENCE OF AGE, GENDER, TOBACCO AND MANUAL TASKS IN THE PRESENCE OF POWER DOPPLER SIGNAL IN SUBJECTS WITH NON INFLAMMATORY ARTHRITIDES

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Background: Power Doppler (PD) ultrasound is a sensitive and reliable method for the assessment of inflammatory activity in rheumatoid arthritis (RA). Many variables, however, were described to modulate the presence of PD signal, and, therefore, its sensitivity and specificity, including, but not limited to, the equipment, the operator and room temperature.

Objective: To assess the presence of PD signal at the wrist and metacarpophalangeal (MCP) joints in subjects with non-inflammatory arthritides according to gender, age, work type (manual task versus non-manual task).and smoking status.

Patients and Methods: The wrist and MCP's of the dominant hand of 182 subjects (75 with diagnosis osteoarthritis of the hand as per the ACR criteria and 107 with no identifiable joint disease) were examined for the presence PD signal. The influence of age, gender, tobacco use and manual tasks on the presence of PD signal was examined using the Chi square and student's T test.

Results: Subjects were predominantly females (79%) and they had a mean (SD) age of 47.9 (15.5) years. Twenty nine (16%) used tobacco and 73 (40%) performed manual tasks. Nineteen (10%) subjects had PD signal at any of the examined joints, 16 (9%) at the wrist and 3 (1.6%) at the MCP 's. The Table below depicts the influence of age, gender, tobacco use and manual tasks on the presence of PD signal.

Feature	Power Doppler Signal		p value
	Yes n=19	No n= 163	
Gender, female, %	12	88	0.372
Age, years, mean (SD)	56.1 (10.2)	46.9 (15.8)	0.015
Smoking, %	5	17	0.318
Manual tasks, %	39	41	0-847

Conclusion: In this study, neither gender nor the type of work (manual versus non manual) or smoking seems to influence the chances to find PD signal in the joints. On the contrary, age was significantly associated with the presence of PD signal, with older patients being more able to display positive findings. The latter should be considered as a practical consideration when performing ultrasound PD examination.