Introduction: Rotator cuff syndrome (RCS) is a major health problem among workers. The aim of this prospective study was to assess the effects of personal and work-related factors on the incidence of RCS in a large working population exposed to various levels shoulder constraints.

Methods: Between 2002 and 2005, 3,710 workers (58.2% men and mean ± SD age of 38.7 ± 10.3 years) were included in a French surveillance program of upper-extremity musculoskeletal disorders. Workers completed a self-administered questionnaire about musculoskeletal symptoms, personal factors and work exposure. Diagnosis of RCS was achieved by 83 occupational physicians using a standardized physical examination. Between 2007 and 2010, 1,611 workers were re-examined. Associations between incidence of RCS and personal and work-related (organizational, biomechanical and psychosocial) factors at baseline were studied by multivariate logistic regression, according to gender.

Results: A total of 1,456 workers (839 men and 617 women) without RCS at baseline were eligible for analyses. Incidence of RCS was 6.1% (n=51) for men and 7.3% (n=45) for women. Preliminary analyses showed that the risk of RCS increased with age for both genders (OR 4.6 [2.2-9.8] in men aged 45-49 years and 5.5 [2.3-13.2] in women aged 50-59 years). The work-related risk factors differed between genders. In men, elevated OR was observed for postures with the arms above the shoulder combined with high physical demand (OR 3.3 [1.3-8.4]). In addition, low supervisor support increased the risk of RCS (OR 2.1 [1.1-4.0]). In women, working with colleagues in temporary employment (OR 2.2 [1.1-4.2]) and moderate arm abduction (OR 2.6 [1.4-5.1]) were associated with RCS.

Discussion: Age was the strongest predictor for incident cases of RCS in both genders. Biomechanical factors were also identified as risk factors whereas psychosocial factors were associated with incident RCS only in men.
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