The effects of experimental knee joint effusion on quadriceps corticomotor excitability, intracortical excitability and the cortical silent period

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Introduction.– Quadriceps arthropgenic muscle inhibition (AMI) is common after acute knee injury, knee surgery and chronic joint pathologies such as arthritis. Joint effusion is known to be a potent cause of AMI, enhancing spinal reflex inhibition of quadriceps motoneurons. It is currently unknown whether supraspinal pathways are also involved in AMI.

Methods.– Transcranial magnetic stimulation was used to measure quadriceps corticomotor excitability, intracortical excitability and cortical silent period duration before and after the induction of experimental joint effusion in 17 healthy volunteers. Experimental joint effusion was induced by injecting dextrose saline into the knee joint to a standardized intra-articular pressure of 50 mmHg.

Results.– Quadriceps corticomotor excitability increased significantly following experimental knee joint effusion (P < 0.05), while the duration of the cortical silent period decreased (P < 0.05). There was no change in short interval intracortical inhibition or intracortical facilitation (P > 0.05).

Conclusions.– The results of this study provide no evidence for a supraspinal contribution to quadriceps AMI. Paradoxically, and in agreement with previous observations in patients with chronic knee joint pathology, quadriceps corticomotor excitability increased following joint effusion. These findings may be at least partially explained by a decrease in GABA mediated inhibition at a cortical level.

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First national osteoarthritis patients’ survey in France: Patients insights first

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Objectives.– The National osteoarthritis Alliance was created to optimize osteoarthritis patient care. One of its first initiatives was the launch of a national patient survey to assess the impacts of osteoarthritis in daily life.

Methods and patients.– A self-administered questionnaire (113 questions) being put on line at www.stop-arthrose.org. The main objectives were to better understand the realities of osteoarthritis and develop support actions for affected people.

Results.– From November 2012 to May 2013, 4650 patients answered the questionnaire (with an average of 20.33 minutes to complete). More than 70% of the respondents were aged between 50 and 69 years old. More than one third of them suffered with the first signs of osteoarthritis before the age of 40. Amongst the osteoarthritis worsening factors, overweight and obesity were present for 52.5% of the respondents, having a professional activity that impacts joints (49.7%) or previous joint trauma (31.8%). Respondents describe a negative impact of osteoarthritis on many life aspects, notably mood (81.7%), leisure activities...