Pain sensitivity and pain scoring in patients with severe obesity

Background: There are indications that pain perception is altered in patients with obesity, which complicates postoperative pain treatment. An essential part for adequate pain treatment is the capacity of the patient to grade pain.

Aim: The aim of this study was to identify the differences in pain perception and pain processing in patients with and without obesity.

Setting: The following task was set up at Dutch Obesity Clinic West; private practice and the Leiden University Medical Center, the Netherlands; University Hospital.

Methods: 41 patients with severe obesity (body mass index 42.9 ± 4.9 kg/m²) and 35 control subjects (body mass index 23.2 ± 2.8 kg/m²) received multiple random thermal and electrical stimuli to the skin, in intensity in-between pain threshold and tolerance. The consistency of scoring was assessed by a penalty score system and stratified into cohorts good, moderate and poor.

Results: The penalty scores differed significantly between patients with obesity and controls with higher penalty scores in patients with obesity for both nociceptive assays. Combining the results of the heat and electrical tests showed that just 28% of the patients with obesity had a penalty score in cohort good indicative of consistency in grading incoming stimuli, in contrast to 60% of control subjects.

Conclusions: Individuals with severe obesity displayed hypoalgesia to noxious electrical stimuli together with difficulty in grading experimental noxious thermal and electrical stimuli in between pain threshold and tolerance. We argue that the latter may have a significant effect on pain treatment, and consequently needs to be taken into account when treating the patients with obesity for acute or chronic pain.

Biography

Bart Torensma pursued MSc and has experience in Epidemiology and Anesthesiology. As CRNA he developed, in the last 10 years, the fast track bariatric surgery for the Dutch Obesity Clinics in the Netherlands. As PhD candidate at the University of Leiden (LUMC) he is doing research in the subjects with obesity combining this with the research in the operation theatre during surgery. Deep neuromuscular blockage and the finding of reducing pain post-operative with lower opiate consumption is one of his research projects. Furthermore, he developed his own Masterclass in epidemiology, anesthesiology and physiological effects of stress in the brain and the effect on the human behavior.

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