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THE EFFECTS OF CO<sub>2</sub> INHALATION IN PATIENTS WITH CHRONIC POST-TRAUMATIC STRESS DISORDER (PTSD)

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Introduction: Panic disorder and post-traumatic stress disorder (PTSD), which is currently classified as an anxiety disorder in DSM-IV, share some clinical characteristics. Emerging evidence suggests that CO<sub>2</sub>-induced fear reactivity is associated with anxiety disorders, especially panic disorder. However, there are only very few data available about the sensitivity of patients with PTSD to carbon dioxide.

Aim: To examine the psychometric effects of CO<sub>2</sub> on panic anxiety and PTSD symptoms in subjects with PTSD.

Methods: In 10 patients with PTSD, 10 sex- and age-matched healthy subjects and additional 8 patients with panic disorder we assessed anxiety, panic, dissociative and PTSD symptoms before and after a single vital capacity inhalation of 35% CO<sub>2</sub>.

Results: Inhalation of a single deep breath of 35% of carbon dioxide resulted in significant panicogenic and anxiogenic effects in PTSD patients versus healthy controls, which were similar to the well known responses of patients with panic disorder. Furthermore, significant pro-dissociative effects and significant provocation of post-traumatic flashbacks and PTSD symptoms were observed in PTSD patients.

Conclusions: These data provide novel evidence that panic disorder and PTSD share a common hypersensitivity to CO<sub>2</sub> and thus might belong to the same spectrum of vulnerability.