

A WARNING SIGN OF DISTRESS

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Introduction

Cardiac parameters are pivotal in emergencies and for monitoring clinical course. The burden may be wider than expected as well as the reversibility of physiological response versus a shift toward pathological dysfunctions .

Methods

In the contest of a study on cardiac parameters in acute stroke, chronic cerebrovascular diseases and other neuropsychiatric diseases (OND), we focalized our attention on the latter, classified as normal or score I, at American Cardiology Association and New York Heart Association scales. So far, we recruited 70 OND patients (33 males, age 43,33 sd 13,95; 37 females, age 43,03 sd 13,89). We performed a serial assessment of high sensitive Troponin (Tro ths) and NT-Pro-Brain Natriuretic Peptide (NT-PBNP).

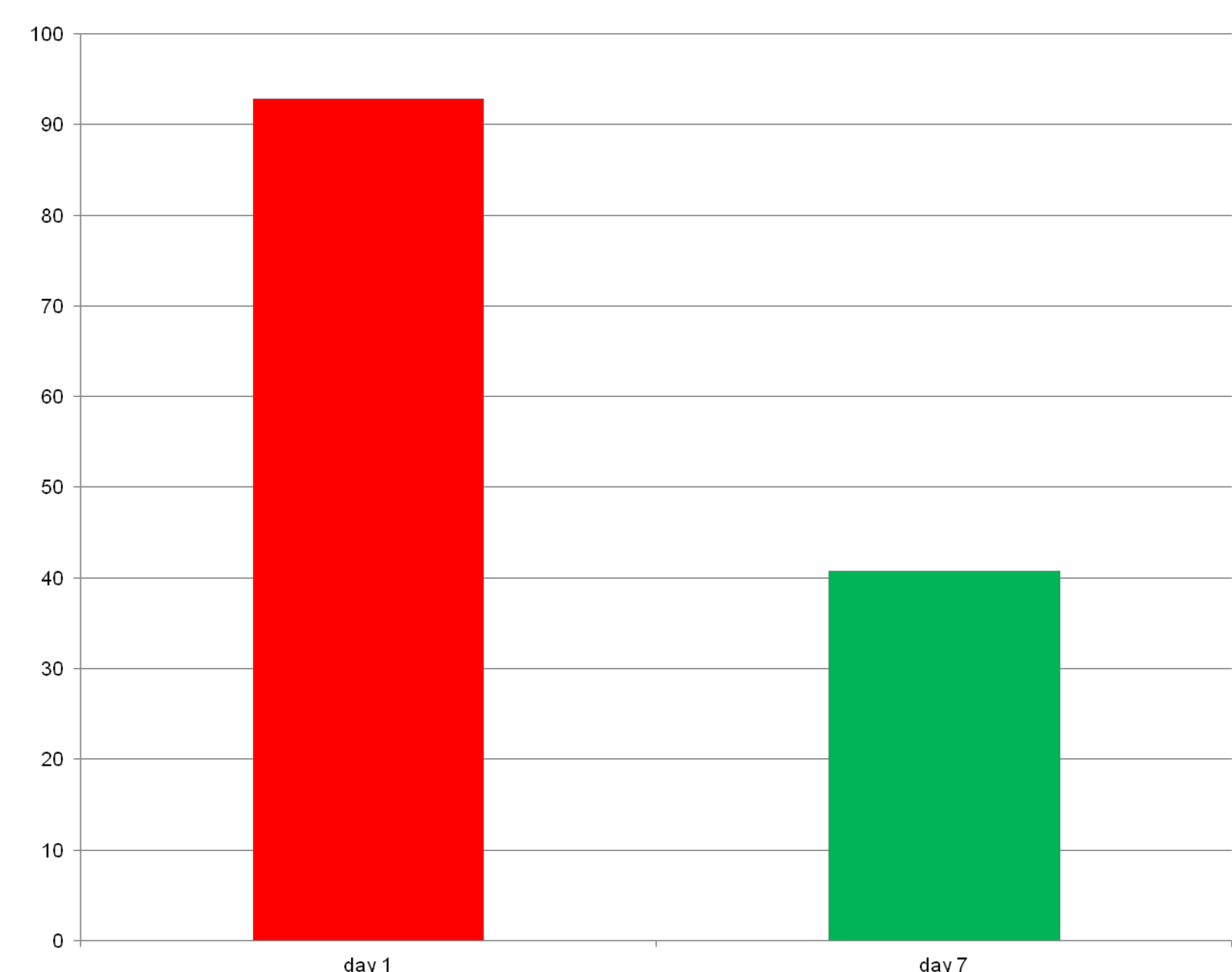
Results

Preliminary results showed differences in NT-PBNP levels between males and females at admission (50,56 sd 64,58 vs 135,19 sd 144,79 pg/ml, p 0,003). A decrease was observed at day 7 in all patients (92,88 sd 119,11 vs 40,78 sd 44,35 pg/ml, p 0,001) (Fig. A), already evident at day 3, above all in women (135,19 sd 144,79 vs 57,91 sd 45,27 pg/ml, p 0,0005, relative percentage change -133%) compared to men (50,56 sd 64,58 vs 28,5 sd 22,11 pg/ml, p 0,05, relative percentage change -77%) (Fig. B). No differences in Tro ths levels were detected.

Discussion

A stressful event, as hospitalization, may result in atrial overload and myocardial spreading depression. NT-PBNP seems to be the most sensible and useful parameter to assess the reversibility of such common condition, which may stand for physiological preconditioning or evolve toward subtle, critical ischaemia. The shift toward irreversibility depends on ejection fraction, peripheral resistances, compliance, strictly linked and further exacerbated by cerebral anoxic-ischaemic damage. Then, NT-PBNP may be a warning marker of either an adaptive or maladaptive response.

A



B

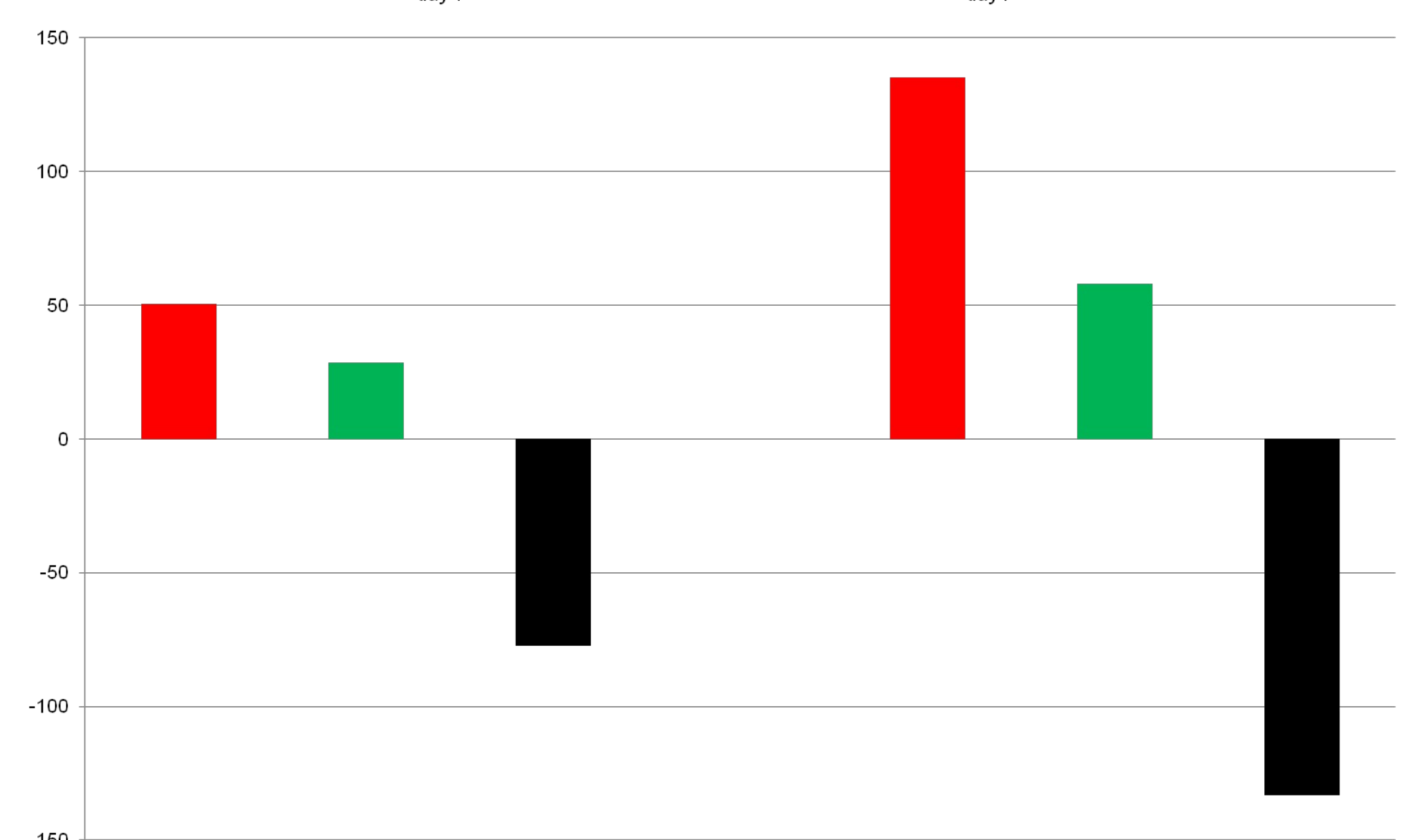


Fig. A: Levels of NT-PBNP at day 1 and 7.

Fig. B: Levels of NT-PBNP in males (left) and females (right) at day 1 (red columns) and day 3 (green columns) and respective relative percentage changes (black columns).