Objective: To assess the role of the N-terminal prohormone form of brain natriuretic peptide (NT-proBNP) in patients with acute brain oedema. Methods: This is a case control study. Twenty-two patients with acute brain oedema evidenced by computed tomography (CT) were recruited and compared to a control group of 30 healthy adult volunteers. Levels of NT-proBNP were measured in all patients at hospital admission and on the 12th and 24th hours after admission; as well as in a control group of 30 healthy blood donors. Results: Twenty-two patients with brain oedema and 30 controls were included. There were significant differences between the brain oedema group and the control group on the NT-proBNP levels at admission time, on 12th or 24th hours after admission. There was no significant difference in NT-proBNP levels at admission time with the severity of brain oedema evidenced by CT. When we considered the relationship between mannitol usage and NT-proBNP levels, we found a significant difference between brain oedema severity and NT-proBNP level according to brain oedema severity after anti-oedema treatment, for 12th and 24th hours NT-proBNP levels. Conclusions: There is a possible association between brain oedema and elevated serum NT-proBNP levels.