OVERWEIGHT AND STROKE OUTCOME: A RELEVANT RELATIOSHIP?

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Background: Obesity and overweight have been widely investigated as possible risk factors for cerebrovascular disease with contrasting results. In fact, overweight is usually considered a relevant, modifiable risk factor for stroke but, according to the well-known theory called "obesity paradox", obese or overweight stroke patients may present lower risk of recurrence and generally, a lower incidence of major vascular events when compared to normal-weight patients. The aim of this study was to evaluate, in a sample of patients affected by acute ischemic stroke, the possible correlation between overweight classes and stroke severity and outcome.

Methods: All consecutive patients admitted for an atherothrombotic acute ischemic stroke over a one-year period were considered. According to the body mass index (BMI) value, patients were classified in eight categories. At the end of a three-month follow-up, patients were evaluated and the outcome was defined according to the modified Rankin scale (mRS) score. Relationship between BMI and clinical variables (National Institutes of Health Stroke Scale (NIHSS) at admission and mRS scores at the end of hospitalization was analysed.

Results: 191 consecutive patients were included. In the entire sample, we observed a linear association between BMI and NIHSS scores at admission and at the end of hospitalization (r2=0.498, r2=0.367p<0.0001) and between BMI and mRS scores at admission and at discharge (r2=0.680, r2=0.480 p<0.0001) (Figure 1). ANOVA analysis underlined a rising trend in mRS scores at the end of hospitalization with an increase in the BMI category (p=0.011). The GLM/Multivariate model underlined the same trend after a covariates adjustment (Figure 2).

Conclusion: Obesity is generically associated to an increased risk of stroke. Our findings underline the presence of a direct relationship between extent of overweight and severity of stroke at onset and after a three-month period. BMI could be employed as a useful assessment measure to stratify patients according to the severity and risk of an unfavourable outcome after ischemic atherothrombotic stroke.

Figure n.2 Relationship between BMI and mRS (GLM/Multivariate) at admission (a) and at discharge (b)

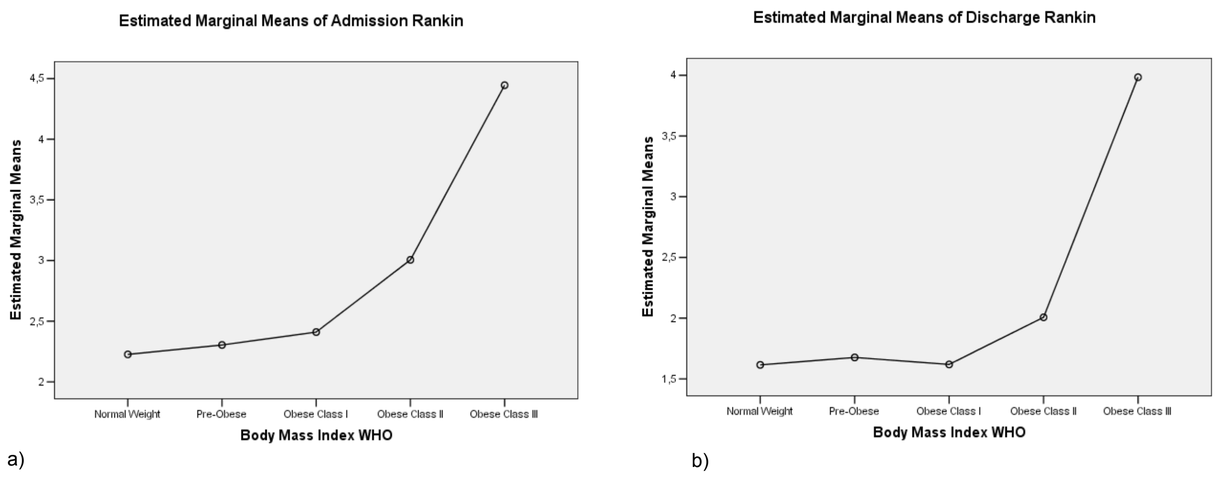
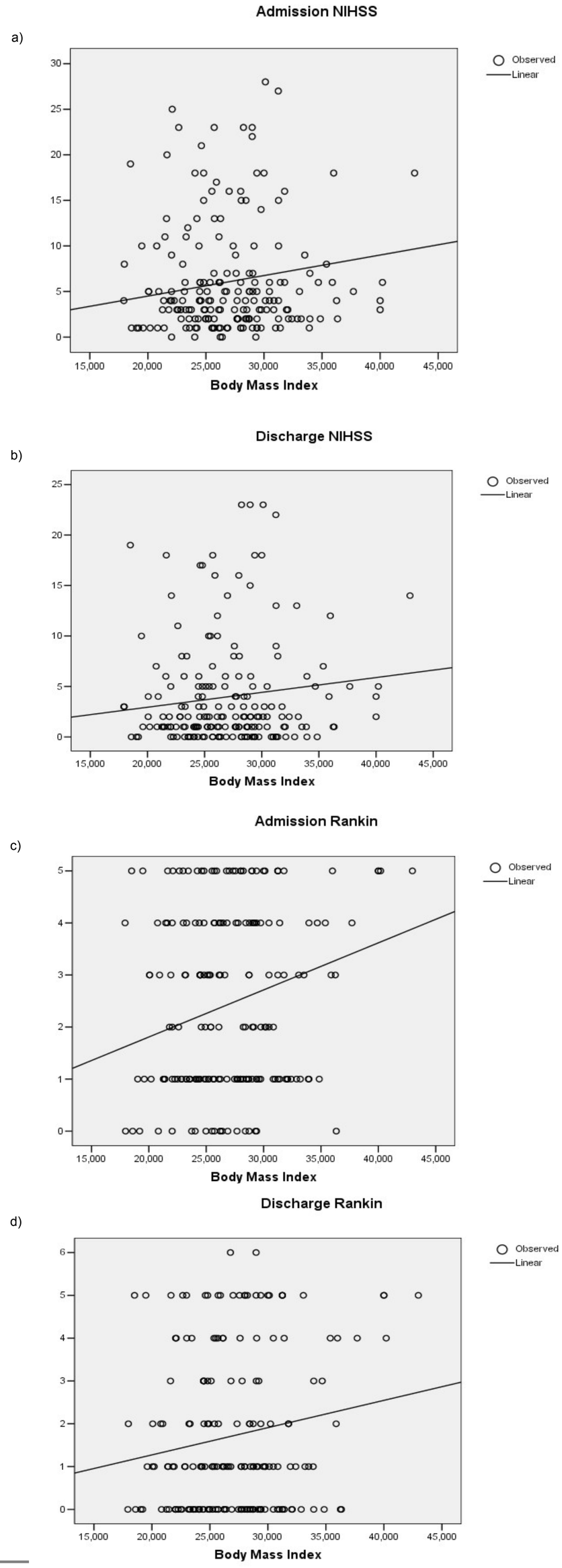


Figure 1: linear association between BMI and clinical outcomes: a) linear association between BMI and NIHSS at admission; b) linear association between BMI and NIHSS at discharge; c) linear association between BMI and mRS at admission; d) linear association between BMI and mRS at discharge.



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