S-reflex score: a predictor score of vaso-vagal reflex syncope

Costa H.; Fernandes R.; Mota T.; Bispo J.; Azevedo P.; Santo M.; Carvalho D.; Marques N.; Candeias R.; Jesus I.

Algarve University Hospital Center, Faro, Portugal

Introduction: Reflex syncope is one of the most common causes of syncope, usually associated with unspecified triggers and prodromes. The probability of occurrence is higher when concomitant factors coexist whether inherent to individual or related to environment, and changes in conventional tests may prove useful in their diagnosis.

Objective: Identify predictive factors in the initial investigation in order to establish a predictor score of vasovagal reflex syncope (VVS).

Methods: Observational and retrospective study, with descriptive analysis and correlation of patients followed in syncope appointment at a Cardiology Center from 1 January 2015 to 31 Novembe 2019. Descriptive analysis on patient characteristics and complementary exams were carried out. The correlation test used between categorical variables was Chi-square and among continuous variables the T-Student test with a significance level of 95%. Independent predictors of VVS were identified through binary logistic regression considering a $p = 0.05$, with subsequent application of a discriminatory function using the lambda Wilks test to determine the discriminant score of variables under analysis. SPSS 24.0 was used for statistical analysis.

Results: Identified N694 patients, 52% male, mean age of 63 years. 15.7% of patients with suspected VVS in a first impression. At the end, 22.9% diagnosed with VVS and of these 66% had syncope recurrence. 42% had long prodromes ($p = 0.013$), 17% with heat prodromes ($p = 0.012$), in 11.3% the trigger was the meal ($p = 0.031$), 12.2% suffered trauma ($p = 0.07$) and 59.7% had ECG with pathological q wave ($p = 0.00$), thus showing to be independet predictors of VVS. A predictor score of VVS was determined using the formula = -0.761 + (0.529.Long_Prodromes) + (0.721.Heat_Prodromes) + (0.313.Trigger_Meal) + (2,431.ECG_q) - (0.542.Trauma), with a cutoff value of 0.258, specificity of 90.5% with discriminative power of 87%.

Conclusion: The final diagnosis of VVS was higher than suspicions during initial clinical investigation and 66% of these patients had recurrence. The independent predictors factors of VVS are long prodromes, heat prodromes, meal as a trigger, ECG with q waves and trauma. The S-Reflex score was determined with a good discriminative power with high specificity. Considering clinical variables and conventional exams, this score could be useful to guide the strategy for syncope patients after the first evaluation to a more cost-effective strategy.