

Correlation of hand ischemic questionnaire with digital brachial index in patient with upper arm native arteriovenous fistula

Raden Suhartono, author

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Abstrak

Introduction: Steal syndrome is one of the most feared complications in maintaining arteriovenous fistula (AVF) for hemodialysis. The incidence of steal syndrome in worldwide is estimated to be 0.5-5%. There are various non-invasive examinations to assess the degree of stealing, one of which is the digital brachial index (DBI). In this study, subjects with brachiocephalic AVF were assessed by the hand ischemic questionnaire (HIQ) to assess the manifestations of steal syndrome complained by the patient, which are the sensation of cold, pain, the decrease in sensation and strength, and cramps. The literature about the correlation of DBI with other assessment is still limited. **Method:** The subjects of this study were all patients undergoing hemodialysis with upper arm AVF at Cipto Mangunkusumo Hospital in the period May – June 2019. Patients will be asked about various symptoms of stealing syndrome, the severity, and also frequency, according to HIQ. The scores were then calculated, followed by scores of DBI measurements using a plethysmograph. The DBI values that considered to be meaningful as stealing syndrome were <0.6 . The correlation between the two parameters was then analyzed. **Results:** From demographic data, characteristics of patients with native AVF by sex were 37 (46.2%) men and 43 (53.8%) women with an average age of 53 years. The minimum value of the HIQ score was 0, and the maximum value was 70, with a median value of 3. The correlation test between the total value of the HIQ questionnaire score and the DBI value found a significant correlation ($r = -0.0798$, $p < 0.001$). A diagnostic tests was performed between HIQ scores using a cut-off value 50 with a DBI value <0.6 as a reference. It was obtained a sensitivity value of 15.3% and a specificity value of 100%, with a diagnostic accuracy of 58.75%. **Conclusion:** There was a good correlation between HIQ and DBI in patients undergoing hemodialysis using upper arm native AVF. The use of HIQ as a screening tool in native upper arm AVF patients is less recommended, but its use for patients who are suggestive of stealing syndrome has good specificity results.