Venous International Assessment (VIA scale) classification tool for the peripheral venous system

Abstract:

Purpose: VIA scale is a dynamic performance status tool of the peripheral venous system that is divided into five different grades, composed of three parameters: number of observable puncture points; optimal catheter size for cannulation and ease of performing venipuncture and risk of extravasation.

Methods: Prospective single-center, observational, open, non-randomized study divided into two phases. In the first longitudinal phase, we studied the clinical characteristics and the changes in their peripheral venous systems during intravenous chemotherapy for 16 patients (n=16) for an average period of 24 months. In the second transverse phase, we measured the vein’s diameter at the selected puncture points with a high-resolution ultrasound and paired this figure with VIA scale. We selected a group of oncology patients (n=52) and a control group (n=56).

Results: In the first phase, the level of agreement between the three reviewers was excellent. The second step was to assess the relationship between the measurements obtained with ultrasound and the VIA scale. The vein diameter measurements show a decrease directly related to the assessment of observers in the VIA scale.

Conclusions: The VIA scale is a simple, easy and practical method for classification of the peripheral venous system in terms of vascular access. The practical application of our VIA scale significantly increases the quality of life of patients by increasing the chances of successful venipuncture and cannulation and thus reducing the risk of extravasation and material costs, allowing both an economical and a safe venous assessment tool.