The aim of this study is to compare an intravenous (IV) catheter system which uses a retractable guidewire (RG-IV) designed to facilitate IV placement with a conventional IV (C-IV) catheter control” Chick et al (2017).

Abstract:

INTRODUCTION: The aim of this study is to compare an intravenous (IV) catheter system which uses a retractable guidewire (RG-IV) designed to facilitate IV placement with a conventional IV (C-IV) catheter control.

MATERIALS AND METHODS: A prospective, randomized design was used. Patients referred to interventional radiology for outpatient procedures were offered participation. Enrollment occurred between August and November 2013. Patients were assigned to receive the RG-IV or C-IV in a 1:1 randomization scheme. After assignment, up to three attempts by a registered nurse occurred with the assigned device; if all three attempts failed, crossover to the other device occurred. The primary outcome variable was first-attempt success at IV placement. Secondary outcome variables included patient and clinician satisfaction, number of attempts, and time to successful placement. Two hundred twenty patients were enrolled (139 men, 81 women) in the study.

RESULTS: Of the 220 patients, two were withdrawn prior to IV attempt leaving 218 subjects, 109 in each group. First attempt success (77% RG-IV vs. 82% C-IV, p = 0.5), number of attempts to achieve IV access (1.26 RG-IV vs. 1.29 C-IV, p = 0.98), and time to achieve IV success (2.9 minutes RG-IV vs. 2.7 C-IV, p = 0.82) did not differ between groups. Patient satisfaction with insertion was higher in the C-IV group (4.5/5 vs. 3.9/5, p<0.001) although comfort comparison was not (3.3/5 RG-IV vs. 3.5/5 C-IV, p = 0.15).

CONCLUSIONS: In an interventional radiology outpatient population, the RG-IV and C-IV were
comparable in first-attempt success, number of attempts, and time to achieve IV success. Patient satisfaction was higher with C-IV.

Reference:


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