Abstract:

Objective: Safety and efficacy of ECG-guided PICC insertion using a new silicon catheter with a conductive tip was evaluated in daily practice.

Methods: A retrospective study was conducted on 1659 patients who accepted successful tip-conductive PICC placement and clinically followed-up until the catheter removal between January 2018 and April 2019. Baseline of patient characteristics, catheter placement characteristics, date of dressing changes as well as records of catheter-related complications were extracted from a special designed mobile APP.

Results: The first-attempt success (success of placing catheter tip to the ideal position by primary indwelling operation) rate of PICC placement was 99.3%. The average duration of PICC placement was 128.7 ± 39.5 days and 1535 patients (92.5%) reached the therapy end-point without any complications and removed the catheter normally. The cumulative rates of total complications were 7.5%, including exit site infection (2.5%), phlebitis (0.9%), DVT (1.0%), catheter malposition (1.1%), catheter breakage (0.1%), and liquid extravasation (1.8%). In multivariable logistic regression analyses, hyperlipidemia, diabetes mellitus, lung cancer, stomach cancer, and lymphoma were significantly associated with increased risk of complications, as the independent risk factors.

Conclusions: This retrospective clinical study demonstrates that ECG-guided insertion of a new tip-conductive PICC is associated with a high rate of first-attempt success and low rate of catheter related complications.

Reference: