Abstract: P44

Impact of the distal radial artery approach in nursing service

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Background:The distal transradial approach (dTRA) is a newly developed technique expected to reduce bleeding and other complications, such as occlusions, arising from the nature of the puncture site during transradial access. However, there is a paucity of data with regard to the nursing workload during or after achieving hemostasis. The present study aimed to evaluate the workload of the nursing service associated with dTRA in patients undergoing diagnostic coronary angiography (CAG).

Methods: Two-hundred patients who underwent CAG using a 4-Fr sheath system in our hospital between October 2017 and September 2018 were enrolled in the study. Of the total, 100 patients underwent dTRA for CAG (dTRA group), and the other 100 patients underwent the conventional transradial approach (TRA) for CAG (TRA group). After CAG, continuous compression was performed for 3 hours in the TRA group using a TR Band™, which is a hemostasis device for TRA, to remove 2 ccs and 3 ccs of air at 30 and 120 minutes, respectively. If bleeding occurred, 1 to 2 ccs were replaced using the band, followed by a wait time of 15 minutes. Similarly, continuous compression was performed in the dTRA group using STEPTY™, a compression tape with a 6-mm-thick pad at the central portion, and the patient’s arm was wrapped in an elastic bandage for 2 hours after CAG. We compared the dTRA and TRA groups in terms of nursing workload associated with the achievement of hemostasis and the complications related to the puncture site.

Results:The nursing-service workload associated with the management of hemostasis, including the nursing hours, the time taken to measure vitals, and the recording times were found to be significantly shorter for the dTRA group compared to that of the TRA group (2.1±0.5 vs 4.1±0.7 times, p<0.001; 2.1±0.4 vs 4.1±0.7 times, p<0.001; 2.1±0.4 vs 4.1±0.6 times, p<0.001, respectively). Further, the number of cases requiring treatment for bleeding was fewer in the dTRA group than in the TRA group (3 vs 12 cases, p=0.05).

Conclusions:The workload of the nursing service associated with achieving hemostasis in the dTRA group was significantly lower compared to that in the TRA group. The introduction of dTRA for routine coronary catheterization possibly help in reducing the complications and the nursing workload in daily nursing practices.