

The Project of Improving the Rate of Access Site Bleeding after Femoral Artery Cardiac Catheterization

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Purpose: Access site bleeding is the most common complication after cardiac catheterization. The classic sand bag method is widely used for control of bleeding and prevention of vascular complications. It is also crucial for nurses to monitor and assess the access site after the procedure. In 2012, the incidence of access site bleeding after cardiac catheterization is 15.4% (12/91) in our intensive care unit, and all of them have the procedure via femoral artery. The aim of the project was to improve the incidence of access site bleeding after the procedure.

Methods: The characteristics of nurses (n = 20) and patients (n = 12) were analyzed. Half of the nurses have work experience less than three years. The average age of patient is 61 years old. Most of them were overweight (71.4%), having at least one chronic disease (e.g., heart disease, hypertension, diabetes, kidney disease, and liver disease) and taking anticoagulant medicine (78.5%). Through the situation analysis and field observation, the causes of access site bleeding were identified as follows: patient characteristics, a lack of evaluation indicators of nursing standard, inadequate professional ability and experience of novice nurses, displacement of sand bag due to longer periods of bed rest, inappropriate fixed equipment for the sand bag, and insufficient orientation program. To resolve problems such as those listed above, we created equipment with elastic material to fix the sandbag and compress the access site. The guideline and evaluation indicators of post-cardiac catheterization were also built. The novice nurses were arranged to care post-cardiac catheterization patients and were supervised by senior nurses. An educational audiovisual and in-service education supervised by a licensed cardiologist were established to enhance nurses' knowledge.

Results: The incidence of access site bleeding after cardiac catheterization decreased from 15.4% to 0%.

Conclusion: Through implementing those strategies, the incidence of access site bleeding after cardiac catheterization significantly decreased. Also, the experience of using the elastic equipment for fixing the sandbag and compressing the access site is spread to other intensive care unit. However, considering that some of the patient characteristics are irreversible, nurses and cardiologist should carefully assess the risks factors of access site bleeding. The project could serve as a reference for clinical practice.