PROLONGED VENOUS BLEEDING AFTER TUNNELED DIALYSIS CATHETER INSERTION; A SINGLE-CENTER STUDY

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Background:
The prevalence of tunneled cuffed venous catheters (TCVC) as hemodialysis access is increasing in many countries. Prolonged venous bleeding (PVB) after placement of TCVCs is relatively common, and usually easily solved complication; however sometimes it can result in need for transfusion therapy. This study examined association between PVB and patients' characteristics, antiaggregation therapy, and serum albumin level. Lower albumin level has been associated not only with increased mortality and morbidity in hemodialysis population, but also with increased blood loss from the access cannulation site.

Patients and methods:
In retrospective single-center analysis we compared characteristics of patients that developed PVB after placement of TCVCs with those that did not. Only TCVC placed in an adult patient without bleeding disorders or anticoagulation therapy with an international normalized ratio ≥ 1.5, a platelet count ≥ 90.000/dL were included in analysis. Permanent catheters were placed by 3 experienced practitioners, always using ultrasound guidance. The catheter implantation was always performed in an operating room with aseptic conditions, and a radiographer with fluoroscopy for determining localization of the guidewire during and catheter tip after insertion. All TCVC were filled with heparin after insertion.

Figure: Tesio catheter exit site immediately after placement to a patient with bullous epidermolysis

Results:
From July 2011 to April 2014 we identified 121 TCVCs that met our study inclusion criteria; insertion of 14 of them was complicated with PVB (11.6%). Complication was usually solved with placement of a compression dressing, or prolonged compression. One patient (0.8%) required red blood cell transfusion due to excessive bleeding. Patients with PVB were younger (56 vs. 61 years), had lower incidence of diabetes mellitus (18.3% vs 23.3%), and longer dialysis vintage (50.3 vs 24.8 months). Fewer of them were receiving antiaggregation therapy (14.3% vs. 20.5%) and they had lower serum albumin levels (27.5 vs. 38.1 mg/dl). However, only the difference in albumin level reached statistical significance (P<0.001). After April 2014 we started filling TCVC immediately after insertion with citrate solution which resulted in a lower incidence of PVB (2.4%).

Conclusion:
Our study identified association between excessive venous bleeding after TCVC insertion and lower albumin level. Venous bleeding after TCVC insertion is a complication that merits attention, and can probably be reduced by filling catheters with citrate solution after insertion.

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