Abstract:

Background: Insertion of peripherally inserted central catheters in oncological patients is potentially associated with catheter-related thrombosis and fibroblastic sleeve; the actual incidence and interactions between these two non-infective complications have never been investigated in a prospective clinical study on peripherally inserted central catheters.

Methods: In a cohort of oncological/hematological patients with peripherally inserted central catheter, we evaluated the occurrence of catheter-related thrombosis and/or fibroblastic sleeve, examining all patients by ultrasound scan at days 7, 14, 21, and 28 after insertion. We correlated our findings with the type of disease.

Results: We enrolled 254 patients with power injectable polyurethane 4Fr peripherally inserted central catheters. Ultrasound scan of the veins of the arm showed fibroblastic sleeve in 76 patients (29.9%); the fibroblastic sleeve was first detected on day 7 in 45 cases (17.7%), on day 14 in 26 cases (10.2%), on day 21 in 3 cases (1.2%), and on day 28 in 2 cases (0.79%). There was no correlation between the type of disease and the development of fibroblastic sleeve. The incidence of asymptomatic catheter-related thrombosis was 5.12%; all catheter-related thromboses were detected before day 14. There was only one case of symptomatic catheter-related thrombosis (0.39%) in a leukemia patient. Fibroblastic sleeve and catheter-related thrombosis were associated only in two cases (0.78%).

Conclusion: Fibroblastic sleeve is a frequent (29.9%) but asymptomatic finding in oncological and hematological patients with peripherally inserted central catheter, and-in the vast majority of cases-it occurs within 2 weeks after insertion. If compared to fibroblastic sleeve, asymptomatic catheter-related thrombosis is less frequent (5.51%); symptomatic catheter-related thrombosis is rare (<1%).

Reference: