

Introduction

Vascular access-site complications are an important cause of morbidity among individuals undergoing endovascular procedures. Closure devices such as Mynx or Angioseal shorten time needed for hemostasis and are cited as more comfortable for patients. However, the safety of such closure devices remains in question as they may lead to higher infection and hematoma rates. In our institution we routinely monitor complications in patients undergoing manual compression following sheath pull. Here we aim to summarize the clinical results of manual compression, with special attention to the prevalence of groin hematoma in these patients.

Methods

Retrospective review of a prospectively collected database revealed 789 patients at our institution who underwent manual compression following sheath pull (August 2011 to November 2017). Sheaths were pulled 4 hours following procedure completion or on POD1 if systemic heparin was needed. All patients underwent endovascular embolization with the Pipeline Embolization Device for cerebral aneurysm treatment with 8-French sheath access. Clinical outcomes of these patients including prevalence of groin hematoma, infection, and length of stay (LOS) were analyzed for statistical significance at a p value of less than 0.05.

Results

Baseline characteristics and operative data were as follows:

- Average Age: 56 years
- Gender (female): 81%
- All patients had manual compression following sheath pull

The prevalence of groin hematoma in this cohort was 2.7%, lower than the literature reported groin hematoma complication rate for closure devices of 5-10%. The prevalence of infection in this manual compression cohort was 0.5%, lower than the rate of 5.1% reported in the literature for closure devices.

In addition, the average LOS in patients with a groin hematoma post-sheath pull was 5.6 days compared to 2.3 days in patients without groin hematomas.

Conclusions

In comparison to closure devices, manual compression post sheath pull has a lower risk of groin hematoma and infection. The longer LOS demonstrates that a post operative groin hematoma is not a benign complication and further enforces our institutional standards for low hematoma rates via manual compression.

Learning Objectives

By the conclusion of this session, participants should be able to:

- Describe the clinical complication rates of groin hematomas associated with manual compression following endovascular procedures in comparison to closure devices
- Describe the ramifications that groin hematoma complications and endovascular access site management may have on length of stay.

References

- Goodney, P. P., Chang, R. W., & Cronenwett, J. L. (2008). A percutaneous arterial closure protocol can decrease complications after endovascular interventions in vascular surgery patients. *Journal of Vascular Surgery*, 48(6), 1481-1488.
- Nguyen, Thach, et al. "Closure Device Complication." *Endovascular Interventions*, 2013, pp. 529–533.