

Endovascular intervention complications

Analysis of retrospectively collected data from procedure logs and patient charts was performed to identify patients who required immediate (before the termination of the intervention) or adjunctive (within 24 hours of the intervention) neurosurgical procedures related to a neuroendovascular intervention complication. The types of neurosurgical procedures and in-hospital outcomes of identified patients are reported as an aggregate and per endovascular procedure-type analyses.

Khatri et al, reviewed a total of 933 neuroendovascular procedures performed during 3.5 years (2006-2010). A total of 759 intracranial procedures were performed. There was a need for emergent neurosurgical procedures in 8 patients (0.85% cumulative incidence and 1.05% for major intracranial procedures) (mean age, 46 years; 7 were women); the procedures were categorized as 3 immediate and 5 adjunctive procedures. There were 5 in-hospital deaths (62.5%) among these 8 patients. Neurosurgical procedures performed were external ventricular drainage placement in 6 (6 of 8, 75%) patients, decompressive craniectomy in 1 (12.5%) patient, and both surgical procedures in 1 (12.5%) patient.

The need for emergent neurosurgical procedures is very low among patients undergoing intracranial neuroendovascular procedures. Survival in such patients despite emergent neurosurgical procedures is quite low ¹⁾.

Although extremely rare, retention of foreign bodies such as microcatheters or micro guidewires can occur during various [endovascular treatment](#) due to gluing of the microcatheter tip or entanglement of the micro guidewire tip with intravascular devices.

Koo et al., have experienced 2 cases of irresolvable wire retention, one after flow diverter placement for a left cavernous internal carotid artery aneurysm and the other after intracranial stenting for acute basilar artery occlusion. The first patient presented 6 weeks after her procedure with right lung parenchymal hemorrhage due to direct piercing of the lung parenchyma after the retained wire fractured and migrated out of the aortic arch. The second patient presented 4 years after his procedure with pneumothorax due to migration of the fractured guidewire segment into the right thoracic cavity. In this report, the authors discuss the possible mechanisms of these unusual complications and how to prevent delayed consequences from a retained intravascular metallic wire

²⁾

¹⁾

Khatri R, Ansar M, Sultan F, Chaudhry SA, Khan AA, Rodriguez GJ, Tummala RP, Qureshi AI. Requirements for emergent neurosurgical procedures among patients undergoing neuroendovascular procedures in contemporary practice. *AJNR Am J Neuroradiol*. 2012 Mar;33(3):465-8. doi: 10.3174/ajnr.A2787. PubMed PMID: 22116112.

²⁾

Koo HW, Park W, Yang K, Park JC, Ahn JS, Kwon SU, Hwang C, Lee DH. Fracture and migration of a retained wire into the thoracic cavity after endovascular neurointervention: report of 2 cases. *J Neurosurg*. 2017 Feb;126(2):354-359. doi: 10.3171/2015.12.JNS152381. PubMed PMID: 26991391.

Last
update:
2025/05/13 02:06 endovascular_intervention_complications https://neurosurgerywiki.com/wiki/doku.php?id=endovascular_intervention_complications

From:
<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:
https://neurosurgerywiki.com/wiki/doku.php?id=endovascular_intervention_complications

Last update: **2025/05/13 02:06**

