



Feasibility, Safety, and Periprocedural Complications of Pipeline Embolization Device Deployment Under Conscious Sedation and Local Anesthesia: The University of Buffalo Neurosurgery Experience
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Introduction

Endovascular Pipeline embolization device (PED) placement for intracranial aneurysms is performed under general anesthesia (GA) in most centers for perceived improved image quality and patient safety. The objective of this work is to report the feasibility, safety and outcomes associated with PED use for intracranial aneurysm treatment under conscious sedation (CS) and local anesthetics (LA).

Methods

Between March 2012 and September 2014, 130 patients with 139 intracranial aneurysms (8 ruptured) were treated with PED at the author’s institution under CS. Procedure details and time, radiation exposure, fluoroscopy time, clinical and radiographic outcomes and complications were reviewed.

Results

A total 128 PEDs deployment under CS were performed. All patients underwent successful completion of treatment. Six cases were converted from CS to GA. The mean time between patient entered the angiosuite and the procedure started was 18 min (range, 5min-1hr10min), length of the procedure was 1hr25 min (range 30min-3hrs51min). Fluoroscopy time and radiation exposure mean value were 36.17 (SD±18.4) and 1367 mGy (SD±897), respectively. The mean amount of contrast dye administration was 211.37 mL (SD±83.5). There were 9 (7%) intraoperative complications, 5 of them with transient neurological changes.

Conclusions

In the author’s experience, conscious sedation with local anesthetics for PED placement for intracranial aneurysms is feasible and safe. Operating room, procedure, fluoroscopy times and radiation exposure is similar or less than other reports of PED placement under GA. It allows direct neurological evaluation and earlier detection and response to intraprocedural complications.