USE OF SOLITAIRE STENT-RETRIEVER AS ASSISTIVE ANCHOR FOR PIPELINE EMBOLIZATION DEVICE DELIVERY IN TREATMENT OF GIANT CAVERNOUS ICA ANEURYSM

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DISCLOSURES

None of the authors have a conflict of interest with presented material in this study

Dr. Tawk maintains stock in Blockade Medical
INTRODUCTION

• Flow-diversion is now an accepted standard of treatment for a number of intracranial aneurysms including cavernous and giant ICA aneurysms.

• Technical nuances of delivering these devices are constantly being tested in complex cases.

• Use of adjunctive devices, such as the Solitaire® stent-retriever, as an assistive device, can provide structure and stability for Pipeline stent delivery in wide-necked aneurysms.
METHODS

• We report the treatment of a large, wide-necked, unruptured cavernous ICA aneurysm in a 63 year old female using the Solitaire Platinum stent-retriever as a distal anchoring device for delivery of a Pipeline Embolization Device
CASE PRESENTATION

• 63 year old female evaluated for headache and found to have a giant, wide-necked, unruptured cavernous ICA aneurysm

• Decision made to treat with flow-diversion, using Pipeline Embolization Device
OPERATIVE CHALLENGE

- Broad neck covering >50% of the cavernous ICA and proximal/distal outlets of the parent vessel arising at obtuse angles
- Attempts to advance microcatheter into the MCA resulted in herniation into the aneurysm dome, as seen below
OPERATIVE TECHNIQUE

• Solitaire Platinum device utilized as an assistive anchor for pipeline embolization device delivery
  • Delivered and deployed into the M1 segment through the microcatheter
  • Allowed for microcatheter to be straightened and un-looped from the aneurysm dome (as shown below)
  • Solitaire then re-sheathed and removed to maintain distal access with microcatheter

• Provided structure and stability for pipeline stent delivery into wide-necked aneurysm
OPERATIVE TECHNIQUE

- With microcatheter straightened and advanced into the M2 segment, the Pipeline Embolization Device could be successfully deployed.
SUMMARY POINTS

• Treatment of giant, irregularly shaped and/or wide-neck aneurysms has significantly been improved with the advent of flow-diversion technology.

• Understanding and experience with the technical nuances of delivering current versions of flow-diverter stents is paramount to success.

• Use of adjunctive or assistive equipment may be necessary to allow for successful deployment of a Pipeline Embolization Device.

• The Solitaire stent-retriever provides traction along the vessel wall and can be used safely as an anchor to microcatheter manipulation in cases of tortuous anatomy.

• Innovative uses of available equipment may be necessary to treat complex aneurysms and can be used as stepping stones to further research and development of new technologies and treatment paradigms.