A REDUCED LOW RETROSIGMOID APPROACH TO CLIP POSTERIOR INFERIOR CEREBELLAR ANEURYSMS

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The authors declare that they have no relevant relationship/conditions/circumstances that present a potential conflict of interest.
INTRODUCTION

- Posterior circulation aneurysms were not studied in the International Subarachnoid Aneurysm Trial (ISAT) and were underrepresented in the Barrow Ruptured Aneurysm Trial (BRAT). Controversially, these aneurysms have been managed mainly endovascularly worldwide.

- Clipping of posterior inferior cerebellar artery (PICA) aneurysms involves dissection of the cerebellomedullary cistern; exposure of both its neck and proximal control are significantly less complicated than in basilar artery aneurysm surgery.

- Whenever a PICA aneurysm is selected for microsurgery, a far-lateral approach is traditionally required for clipping. We sought to demonstrate the application of a small retrosigmoid approach in the management of PICA aneurysms.
METHODS

- 5 patients were managed with a reduced low retrosigmoid craniotomy.
  - There were four men
  - Mean age was 54.6 ± 3.0 years old
  - 2 managed in late period of SAH
  - 2 patients had multiple aneurysms
  - One patient with 2 PICA aneurysms

- Patients were positioned in lateral decubitus, head of table was elevated 30°, and patient’s head was laterally flexed and rotated 10° toward the contralateral side. A narrow strip of hair was shaved two fingerbreadths behind the earlobe, where a quite short linear skin incision was placed.
- A small retrosigmoid approach was performed, with the upper edge of the initial burr hole placed 1cm below the transverse sinus. The posterior edge of the sigmoid sinus was fully exposed. The resulting dural opening measured approximately 2 x 2 cm. Brain spatulas were not used, and the V4 segment of VA was initially located after opening both the cerebellomedullary and cerebellopontine cisterns, with abundant CSF drainage.
RESULTS

- All aneurysms were completed occluded as seen on the three-month postoperative angiogram.
- All patients had an uneventful recovery.
56yo female with a left unruptured PICA aneurysm (A, B) and a right unruptured MCA aneurysm. History was significant for HTN, DM and tobacco use. C, Right lateral decubitus. D, A minimal strip of hair is shaved. Short linear skin incision, 2 fingerbreadths behind the earlobe. E, Retrosigmoid craniotomy. F, Small aneurysm arising directly from the PICA, limited superiorly by the hypoglossal nerve. FG, Total occlusion with a 5mm straight clip. H, Patient at the office on the POD10, revealing minimal signs of manipulation. I, Follow up angiogram demonstrating total occlusion.
CONCLUSION

- A less-invasive microsurgical solution for managing PICA aneurysms may be a feasible option to overcome the lower occlusion rates obtained with the endovascular therapy