A Case of Ruptured Peripheral Superior Cerebellar Artery Aneurysm

- Seunghoon Ji[1], Sung Kyun Hwang[1,2,]
- *[1]Department of Neurosurgery, Ewha Womans University Medical Center, Mokdong Hospital, Seoul, Republic of Korea*
- *[2]Department of Neurosurgery, Ewha Womans University Medical Center, College of Medicine, Ewha Womans University, Seoul, Republic of Korea*

EUMC MOKDONG
이대목동병원

Introduction

- We report a hemorrhagic case of ruptured peripheral (dissection) superior cerebellar artery (SCA) aneurysm treated by endovascular treatment.

Case report

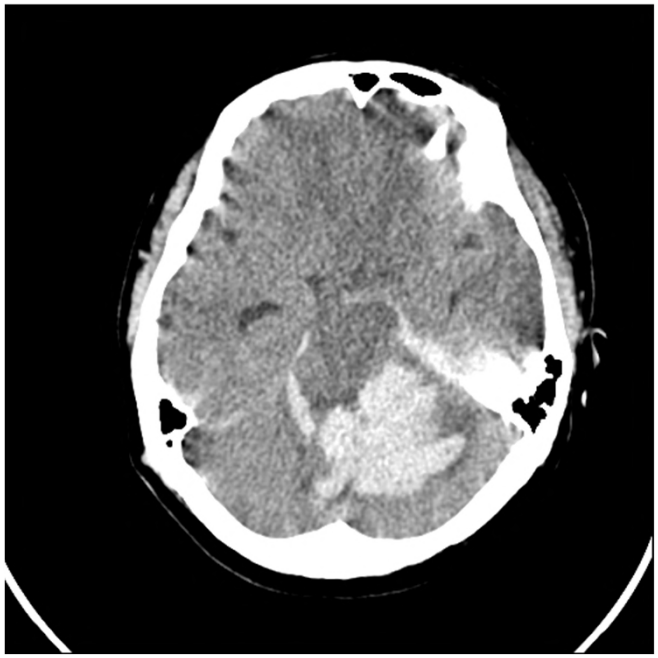
- A 53-year-old woman presented with headache and followed by a loss of consciousness.
- At the time of admission, brain computed tomography revealed an acute intracerebral hemorrhage (ICH) in left cerebellar area with measuring 4 cm in transverse dimension and perimesencephalic subarachnoid hemorrhage (SAH).
- Cerebral angiography showed the suggestive of peripheral (dissection) aneurysm in SCA (about 3x2.6cm). This lesion was treated by endovascular treatment (proximal occlusion of SCA just adjacent to lesion) and hematoma was evacuated by craniectomy.

Case report

- Postoperative CT showed interval decreased amount of ICH with surrounding edema.
- She made a steady recovery, but did recover the consciousness with minor neurological sequela.
- Follow-up CT at 3 weeks later after operation, showed the resolving state of hemorrhage and edema.

Figure 1.

A



B

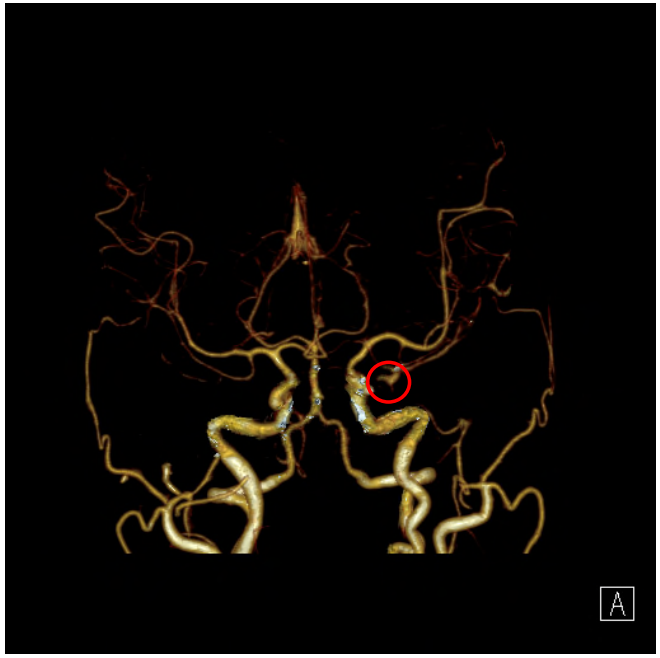


Figure 2.

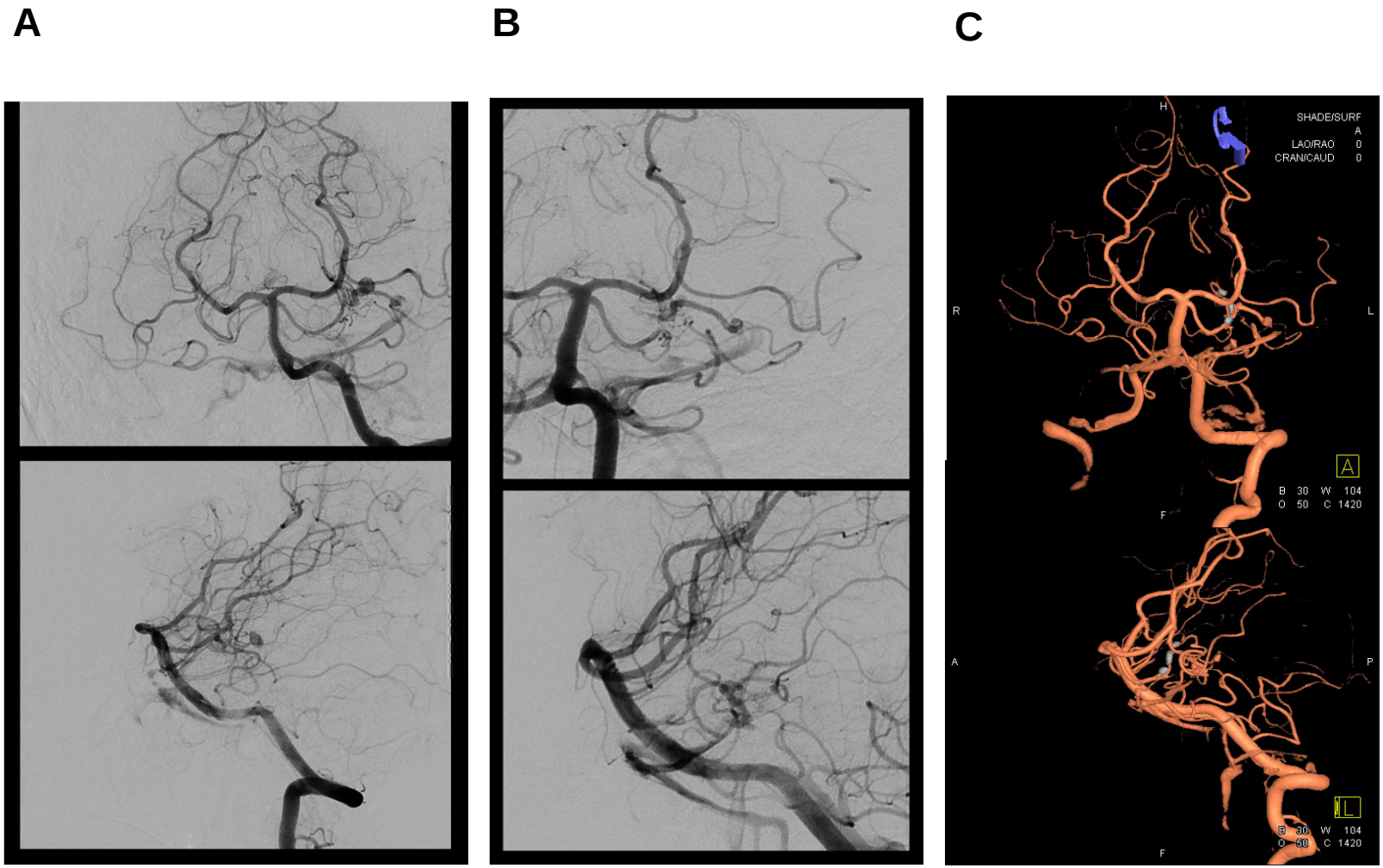

A
B
C
SHADE/SURF
A
LAO/RAO 0
CRAN/CAUD 0
H
R
L
A
P
F
B 30 W 104
O 50 C 1420

Figure 3.



Discussion

- Arterial dissections frequently involve the main trunk of the posterior circulation and are recognized as an important cause of stroke in young individuals.

- However, dissection confined to peripheral superior cerebellar arteries is rare.

- Selection of a surgical procedure to treat dissection of the SCA with SAH should be individualized depending on the neurological condition, development of collateral circulation from the AICA, PICA, or contralateral SCA, and the configuration of the dissection.

Discussion

- Although some studies have reported good results of microsurgery for the management of SCA aneurysms, endovascular treatment is widely performed because it is less invasive and as safe as microsurgery, especially for peripheral SCA aneurysms. When sacrifice of the SCA is necessary, the perforating arteries supplying the brainstem from the anterior pontine segment of the SCA should be considered because brainstem infarction occurs most frequently in that segment.

- When the perforating arteries already are involved in the dissection, proximal occlusion will not cause brainstem infarction, but while these arteries still are intact, great care must be taken to preserve them during occlusion of the parent artery.

- Although ischemic stroke is a potential complication of SCA occlusion, collateral blood flow may limit ischemic infarction and the outcome is usually good.

Conclusion

- Dissection confined to peripheral superior cerebellar arteries is rare but it is important because it can cause brainstem infarction

- Further investigations are needed to reveal risk factors, vascular anatomy, and causative mechanisms of this phenomenon in ruptured peripheral (dissection) in SCA treated by endovascular treatment.