INTRODUCTION

Vestibular paroxysmia or hemifacial spasm can occur due to vascular compression upon each seventh or eighth nerve independently [1,2]. And those presentation may happen synchronously [3]. We report a case of the paroxysmal nystagmus accompanied by hemifacial spasm which are well visualized by three dimensional (3D) reconstruction images and 3D animation.

CASE REPORT

A 55-year-old woman was referred for recurrent attacks of spontaneous vertigo lasting several seconds. She reported no auditory symptoms including tinnitus. She had no medical history except hypertension. She felt dizziness 10 years ago. Dizziness deteriorated deeply and accompanied involuntary facial movement a year ago. Neurologic examination showed right beating, torsional nystagmus and hemifacial spasm on the left side, and these nystagmus and facial spasm occurred...
synchronously. Brain magnetic resonance imaging revealed anterior inferior cerebellar artery (AICA) was in contact with the roots of facial and vestibular nerves (Fig. 1A–C). Three dimensional reconstruction was acquired by axial, coronal and sagittal images and they showed that the AICA surrounded the two nerves very closely (Fig. 1D) by forming an arterial loop (Suppl Video S1). The symptoms were resolved after treatment of carbamazepine 200 mg per day.

**DISCUSSION**

The images of this case presented the arterial compression of the roots of seventh and eighth cranial nerves. Especially, three dimensional reconstruction image and video would aid in understanding and recognizing the mechanism of vestibular paroxysmia accompanied by hemifacial spasm by visualizing the course of the artery and nerves. Anatomically, the course of a cranial nerve is divided into a peripheral and a central part. The area where the nerve is myelinated by Schwann cells is defined as root-entry-zone (REZ). The REZ is histologically myelinated by oligodendroglia. Within the REZ, the susceptibility for developing a neurovascular compressing syndrome seems to be highest [4]. To the best our knowledge, our case will be the first report of the vestibular paroxysmia using the
3-dimensional animation.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

Suppl Video S1. The video demonstrated the 90 degree rotatory view of the structures around the 8th nerve entry zone and revealed that the anterior inferior cerebellar artery surro.

Supplemental data can be found at: https://doi.org/10.21790/rvs.2017.16.4.171.

REFERENCES