

Title of the presentation

Transvenous embolization for deeply located symptomatic small brain AVMs using ONYX

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Purpose:

The total number of endovascular treatment for brain AVMs is decreasing in Japan due to the ARUBA and prevalence of gamma knife centers. However, ruptured deeply seated small AVMs are good indication for transvenous embolization(TVE) using ONYX. Our method, strategy, and outcome are presented in this paper.

Methods:

Seven cases of deeply seated brain AVMs were treated with TVE. M/F ratio is 4/3 and patients' age varied from 40-71 years. The location of AVMs are brain stem; 4 cases, intraventricle; 1 case, corona radiata; 1 case, cerebellum; 1 case. The size of all AVMs is less than 2cm in maximum diameter except for 1 case located in cerebellum. Six cases were ruptured and one case was symptomatic (trigeminal neuralgia). Three cases were treated after transarterial embolizaion but other 4 cases were treated with only TVE. Transjugular venous approach was chosed in all cases and double microcatheters were navigated into the junction between drainer and nidus. Microcoils were deployed just proximal of the drainer to make the ONYX plug easy. ONYX was injected under hypotension as well as feeder occlusion if possible. The microcatheter was left in the vein if retrieval resistance is high.

Results:

All cases were successfully treated with TVE and No recurrence of AVM was found. In two cases perforation of the draining vein was encountered but perforation point was obliterated with ONYX. One case caused venous infarction due to the obliteration of normal draining vein and resulted in 1 score aggravation in mRS transiently.

Conclusions:

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TVE using ONYX is the most effective and safe treatment for ruptured deeply seated small sized brain AVMs.