Important Things to Master the Neurointerventional Technique and Training Program in Our Department

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Summary

My personal training experience of neuroendovascular therapy and training program of our department were introduced in this paper.

It is important to establish the training system of the neuroendovascular therapy to cope with the increasing need of this treatment. In Japan, board certified system has started from 2001¹. I introduce my personal experience of training of endovascular therapy and training program in our department.

I started to learn neurointerventional procedure from 1980. At that time, procedures were mainly occlusion of carotid cavernous fistula using detachable balloons, particle embolization of meningioma from the trunk of the middle meningeal artery, or percutaneous transluminal angioplasty for the subclavian arterial stenosis or vertebral artery. Neurological complications are quite a few compared to those in these days, because of the fluoroscopy with poor quality, unreliable devices, and our insufficient experience and technique. In 1986, I first visited University of California San Francisco to observe the procedures of neurointervention (Professor Grant Hieshima). At that time, a Tracker-18 was just developed and clinically used in UCSF. I observed nearly 40 cases

in one month, including various types of dural arteriovenous fistulas, AVMs, and aneurysms. I learned a lot of things concerning about interventional neuroradiology at UCSF. From that year, I visited UCSF every summer and stayed one month to observe procedures and consulted cases of my institute. From 1986 to 1993, I performed neuroendovascular therapy in my institute 20 to 40 cases per year. In this period, the number of cases was small but I could realize the improvement of my skill and knowledge by myself. Until 1993, I visited UCSF every year and I worked at UCSF for one year as a researcher in this year. I could observe nearly 500 cases during my one-year-stay in San Francisco.

In Kinki area of Japan, we started Kinki workshop of neuroendovascular therapy to discuss complications related to the procedure and difficult cases 13 years ago. This closed meeting was also very helpful to learn new techniques and possible complications related to the procedures.

The important things to master and perform neurointerventional technique are as follows to me.

- 1) to observe the procedures of experts,
- 2) to have an experienced doctor to whom you can consult difficult cases,
- 3) to have fellows who can collaborate and help you,

- 4) don't hurry to increase the number of cases,
- 5) don't cause complications especially in initial 10 cases,
- 6) to keep a good relationship with doctors of other department, nurses, and technicians.
- 7) to attend the meeting to know the new devices and techniques and complications of other doctors.

The training program in our department is as follows.

First year

- 1) To master the usage of guiding catheters including coaxial system, double lumen balloon catheters.
- 2) To master the technique of particle embolization for meningiomas, craniocervical tumors using PVA particle or coils.
- 3) To master the treatment of atherosclerotic disease. PTA and stenting for the carotid, subclavian, or vertebral arteries.
- 4) Acute thrombolysis. To master microcatheter introduction beyond the clot and percutaneous transluminal angioplasty at the occlusive site.

- 5) Dural AVF. To master the transvenous access and the usage of detachable coils.

Second year

- 1) Embolization of standard aneurysm
- 2) PTA/stenting for the intracranial artery including PTA for vasospasm
- 3) To master the usage of a flow guided microcatheter in AVM
- 4) Embolization of aneurysms using remodeling technique

References

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