

신경근육재활 및 전기진단

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 10:00-10:45 Room G(3F)

## **P 1-46**

### **Transcranial Electrical Stimulation for Motor Evoked Potential in Intracerebral Aneurysm Surgery**

Ji Woo Park<sup>1\*</sup>, Min Cheol Joo<sup>1†</sup>

Wonkwang University School of Medicine & Hospital, Department of Rehabilitation Medicine<sup>1</sup>

#### **Objective**

This study aimed to analyse the use of transcranial electrical stimulation (TES) for eliciting muscle motor evoked potentials (MMEPs) in intracranial aneurysm surgery and to correlate permanent or transient TES-MMEP changes with clinical motor outcome.

#### **Methods**

TES were intraoperatively performed in 48 patients. MMEPs were obtained in muscles belonging to the vascular territory of interest. Monopolar, anodal stimulation was achieved with a train of five stimuli consisting of an individual pulse width of 0.5 ms, an interstimulus interval of 4 ms, a train repetition rate of 0.5-2 Hz, and maximum stimulation intensities up to 200 mA.

#### **Results**

In 36/48 (75%) patients, no changes in MMEPs occurred and none of these patients suffered a permanent motor deficit. The motor status remained unchanged in 33/36 patients (91.7%) without MMEP changes. No single patient of this group suffered a permanent motor deficit. One out of 36 patients (2.8%) developed a transient motor deficit and 2/36 patients (5.6%) developed a non-motor transient neurological deficit. In 12/48 (25%) patients, we observed three (25%) temporary changes, five (41.7%) permanent deteriorations. (Table 1)

#### **Conclusion**

Unchanged MMEPs may be followed by a transient change in motor status, but never be a permanent severe deficit. Therefore, intraoperative MMEPs monitoring is an effective and feasible tool for predicting postoperative prognosis.

Table 1. Intraoperative MMEP changes and clinical outcome

	MMEP changes in patients (n)	
	None	Yes
Motor status unchanged	33	4
Transient motor deficit	1	3
Permanent motor deficit	0	5
Other neurological deficits	2 <sup>a</sup>	0
<b>Total</b>	<b>36</b>	<b>12</b>

<sup>a</sup>Incomplete 3rd nerve palsy, Right ptosis

MMEP, muscle motor evoked potential