

뇌신경재활

게시일시 및 장소 : 10 월 18 일(금) 13:15-18:00 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 15:45-16:30 Room G(3F)

## **P 2-84**

### **Effectiveness of Chin Tuck Maneuver: Quantitative Assessment**

Joo Young Ko<sup>1\*</sup>, Geun Seok Park<sup>1</sup>, Tae Uk Kim<sup>1</sup>, Seo Young Kim<sup>1</sup>, Jung Keun Hyun<sup>1,2</sup>, Seong Jae Lee<sup>1†</sup>

Dankook University Hospital, Department of Rehabilitation Medicine, College of Medicine<sup>1</sup>, Dankook University, Department of Nanobiomedical Science & BK21 PLUS NBM Research Center for Regenerative Medicine<sup>2</sup>, Dankook University, Institute of Tissue Regeneration Engineering (ITREN)<sup>3</sup>

#### **Objective**

Chin tuck maneuver has been widely used in rehabilitation of dysphagia. However, previous studies suggested that only about half of patients could avoid aspiration during this maneuver. This study is designed to investigate if the chin tuck maneuver is truly effective by estimating severity of penetration and aspiration objectively and quantitatively.

#### **Methods**

The subjects were 101 patients who showed penetration or aspiration on videofluoroscopic swallowing study (VFSS). VFSS was performed in two positions (neutral and chin tuck) and compared between positions. In patients with penetration only, severity of penetration was assessed by penetration ratio calculated by penetration depth / epiglottis length, where penetration depth was defined as a straight length from the tip of the epiglottis to the endpoint of penetration and epiglottis length was defined as a straight length from tip of the epiglottis to anterior tip of the true vocal folds in VFSS images. All lengths were measured by ImageJ<sup>®</sup> software in the frame that showed deepest penetration. Severity of aspiration was assessed by 8-point penetration-aspiration scale (PAS) when aspiration was present. Chin tuck maneuver was considered effective when penetration ratio was reduced or PAS score was decreased. Penetration ratio was compared between two positions. Other parameters of VFSS were also measured and compared between effective and ineffective groups.

#### **Results**

Fifty-eight patients were male and 43 were female and mean age was 67.2±14.6 years. Penetration ratio was significantly decreased in chin tuck posture compared with in neutral position ( $p=0.002$ ). Chin tuck was effective in 41 out of 76 (53.9%) patients in patients with penetration and in 2 out of 25 (8.0%) patients with aspiration. Pharyngeal delayed time and pharyngeal transit time were significantly shortened in effective group ( $p=0.020, 0.023$ ,

respectively). Residue in the vallecular and the pyriformis sinus and existence of pharyngeal wall coating were significantly less frequent in effective group ( $p=0.015$ ,  $0.001$ ,  $0.043$ , respectively).

### **Conclusion**

The results show that chin tuck maneuver is effective in reducing penetration but far less effective in preventing aspiration. Chin tuck is expected to be effective when the pharyngeal delayed and transit time is not too prolonged or vallecular or pyriformis sinus residue is less prominent or pharyngeal wall coating is less evident. It seems that chin tuck maneuver should be used in selected patients with penetration only.

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