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The importance of early oral intake attempts and swallowing rehabilitation after PEG insertion

Yong Seob Jo[1*], Yong Kyun Kim[1†], Kyun Yeon Lee[1], Jung Hyun Cha[1], Hyun seok Lee[1]

MyongJi Hospital, Department of Rehabilitation Medicine[1]

Introduction
Generally, Percutaneous endoscopic gastrostomy (PEG) is widely used to provide nutritional support in patients with continuing swallowing difficulties because of its safety and low probability of the complications. And yet, South Korean patients and carers have a wrong perception of the insertion of PEG tube, as a step of giving up the treatment of the patients' swallowing, and doctors tend to concentrate their treatment on preventing complications that may occur when the PEG tube is maintained, rather than thinking of its removal through active swallowing rehabilitation when the PEG tube is inserted. This case was that of a patient in whom swallowing disorder improved when early oral intake attempts and continuous swallowing rehabilitation were made despite the relatively undesirable Result of a videofluoroscopic swallowing study (VFSS) conducted after the insertion of PEG tube.

Case presentation
A male patient aged 36 diagnosed quadriplegia due to ruptured P-com aneurysm was admitted to our hospital for dysphagia rehabilitation from January 30 through March 12, 2018. Percutaneous Endoscopic Gastrostomy (PEG) was conducted with the patient on November 09, 2017 and then, no VFSS examination was conducted. After the hospitalization, VFSS was conducted on February 1, 2018 and as a Result of a measurement, at semi-solid 8cc, the remnant 60% and post-swallowing aspiration was observed. Later, dinner was started from dysphagia stage 1 diet, and he was discharged from the hospital after receiving swallowing rehabilitation therapy, including vital stim. And then, he was hospitalized again in our hospital on June 19, 2018 and VFSS was conducted on June 21, 2018. As a Result of an examination, at semi-solid 4/8cc, the remnant was 10%, and the post-swallowing aspiration (-) was observed, and at liquid 4cc, pre+during swallowing aspiration (+) was observed (Table 1)(Figure 1). After the examination, now, he has lunch and dinner through dysphagia stage 2 diet, and PEG removal is considered by allowing even the oral intakes of breakfast in the future.

Conclusion
This patient had aspiration at semi-solid 8cc in VFSS conducted at the time of his first hospitalization, so it was hard to attempt oral intakes. And yet, early oral intake was started with active swallowing rehabilitation, and since there was no complication like aspiration, later, so we were able to raise dietary stage. As a Result, he could be in a state in which he could intake dysphagia stage 2 diet twice a day. Judging from this Result, the process of active swallowing rehabilitation and early oral intake attempts, so that PEG removal can be made even after PEG insertion, can show a better Result in the prognosis.

In addition, if this treatment process is generalized, the existing wrong perception that the patients and carers think that PEG insertion is a process of giving up the treatment of swallowing disorders will be corrected.

Table 1. Comparison between 18.02.01 and 18.06.21 videofluoroscopic swallowing study Result

시행날짜	Oral phase time	Pharyngeal phase time	Semi-solid 8cc	Liquid 4cc
18.02.01	20sec	10sec	Rem. 60% Post-swallowing aspiration (+)	
18.06.21	10sec	1sec	Rem. 10% Post-swallowing aspiration (-)	Pre, during-swallowing aspiration (+)

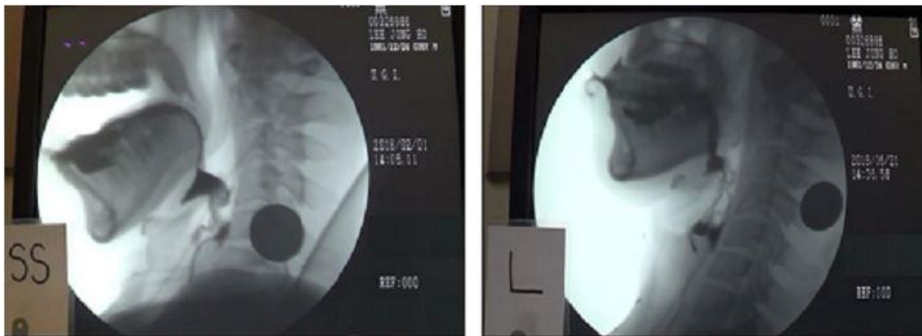

Figure 1. 18.02.01(left) and 18.06.21(right) videofluoroscopic swallowing study Result