

Comparison of Characteristic and Complications According to Gastrostomy type

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Introduction

Gastrostomy is divided into percutaneous endoscopic gastrostomy (PEG) using endoscopy and percutaneous radiological gastrostomy (PRG) using radiation. Although there have been comparative studies on the risk of complications of PEG and PRG groups, there were no studies comparing PEG and PRG groups by disease group. This study is a comparative study of the characteristics, complications, and prognosis between PEG and PRG on various patient groups using various parameters.

Material and methods

The subjects were patients who underwent gastrostomy through outpatient or hospitalization from december, 2010 to april, 2018. We investigated the sex, age, cause of the dysphagia, date and type of gastrostomy, complications. We retrospectively reviewed the medical records.

Result

A total of 187 patients were enrolled in this study. Of these, 5 of patients were excluded from the study because they were replaced by PRG after PEG. As a result, 48 patients with PEG and 129 patients with PRG were recruited. The patient's underlying disease in each PEG and PRG group was described in Table 1. Complications occurred in 63 patients (total 68 patients). The types and incidence of complications in each group were described in Table 2. The risk of complications according to gastrostomy type was examined, the risk of complication was higher in the PEG group than in the PRG group and the odds ratio was 5.528(Table 3). And the correlation between age, sex and complication was examined in the PEG and PRG groups, there was no significant difference between the groups in which the complication occurred and the group in which no complication occurred(Table 4, 5). In this study, age and gender did not affect the outcome of complication in PEG and PRG groups. The preference for procedural type showed that PEG was preferred for Cerebral vascular disease and traumatic brain injury patients. PRG was preferred in patients with head and neck cancer. Complication was more common in the PEG group than in the PRG group. In particular, inadvertent remove, pneumonia, and wound infection were significantly higher in the PEG group than in the PRG group

Conclusion

The purpose of this study was to compare PEG and PRG, which are frequently used in gastrostomy, and to evaluate the preference of PEG and PRG for each disease in

gastrostomy. There were differences in the incidence of complications, especially There were also differences in the types of complications that could occur. Further study is needed to determine the causes of the complication differences between PEG group and PRG group in this study.

Table 1. Generic characteristics of patients

Vairables	PEG	PRG	p-value
Total	48	129	
Age(mean)	65.83	63.05	0.232
Male(female)	31(17)	98(31)	0.155
Head & Neck caner(n)	4	88	0.000*
Cerebrovascular disease(n)	22	10	0.000*
Traumatic brain injury(n)	11	6	0.006*
Brain tumor(n)	1	2	0.929
Motor neuron disease(n)	3	2	0.209
Parkinsonism(n)	2	3	0.302
Etc.(n)	4	18	0.270

* etc : pneumonia, cervical vertebral tumor, GI track cancer, DM neuropathy

Table 2. Kind of complication according to gastrostomy type

Complication	PEG(n)	PRG(n)	p-value
Total	36	32	0.000*
Buried bumper syndrome	2	2	0.298
Electrolyte imbalance	3	2	0.093
Fever	0	2	
GI symptomes	2	9	0.491
Inadvertent remove	6	3	0.006*
Peritonitis	1	2	0.807
Pneumonia	5	1	0.002*
Wound Infection	13	8	0.000*
Etc.	4	3	0.068

* Etc. : LFT elevation, leakage, hypoglycemia

Table 3. Relative risk of complication according to gastrostomy type

	Value	95% Confidence interval	
		Lower	Upper
Odds Ratio for Findings (PEG/PRG)	5.528	2.707	11.286
Complication group	2.604	1.805	3.755
Control group	0.471	0.317	0.699
N of valid cases	177		

Table 4. Comparison of age according to occurrence of complications

	Complication(age)	Control(age)	p-value
PEG	67.42	62.94	0.290
PRG	65.64	62.13	0.105

Table 5. Relative risk of complication according to gender in PEG group

PEG goup	Value	95% Confidence interval	
		Lower	Upper
Odds Ratio for Findings (Male/Female)	2.173	0.636	7.420
Disease group	1.341	0.812	2.214
Control group	0.617	0.292	1.301
N of valid cases	48		
PRG goup	Value	95% Confidence interval	
		Lower	Upper
Odds Ratio for Findings (Male/Female)	0.932	0.369	2.356
Disease group	0.949	0.476	1.893
Control group	1.018	0.804	1.289
N of valid cases	129		