Chronic rhinosinusitis (CRS) is a heterogeneous inflammatory disease in the sinuses lasting for 12 weeks or longer. Multiple factors, including environmental factors, general host factors, and local host factors contribute to CRS. However, the pathophysiology of CRS is not fully understood.

We proposed that chronic rhinosinusitis (CRS) is classified into four phenotypes by cluster analysis in the previous study. Three phenotypes in the four were well classified by nasal polyps and mucosal eosinophil count by free survival analysis (Figure 1). Cluster 1 of 3 phenotypes (NECRSsNP), cluster 2, non-eosinophilic chronic rhinosinusitis with nasal polyps (ECRSsNP); and cluster 4, eosinophilic chronic rhinosinusitis with nasal polyps (ECRSwNP).

In this study, we investigated the difference of recurrence rate of nasal polyps after endoscopic sinus surgery between these three phenotypes.

Methods

A total of 364 of the 375 patients were enrolled in the study. The study outcome was classified into three groups (p0.05 vs. p0.05, respectively). Cluster 2 and cluster 4 had not significantly different (p0.05 or 3.82).

Masculine in the cases the patients were classified by nasal polyps and mucosal eosinophil count (Figure 1). All patients satisfied the diagnostic criteria for CRS set forth in the European Position Paper on Rhinosinusitis and Nasal Polyps. Patients treated with antibacterial agents and steroids, during the 4 weeks before surgery, were excluded from the study. Patients with aspirin (ASA) intolerance were excluded from the study. The 192 male (72.7%) and 72 female (27.3%) patients were aged 18 to 85 years (mean 48.9 years). Forty-one patients (15.5%) had asthma. The mean follow up period was 540.4 days. Table 1 compiles the patients background data for the three phenotypes. Statistically significant differences were found between the phenotypes for each of the variables including age, gender, paraethmoidal and baffle count, presence of mucocele, ANK and symptom scores. Sex and total IgE levels were not different.

We excluded mucosal eosinophilia can be defined by a cutoff value of 80.5/HPF. Patients with ECRSwNP tended to show higher mucosal eosinophilia than others. However, due to small study size, this cutoff value was appropriate value, because this study was a relatively small study. We need to conduct a larger study.

CONCLUSIONS

This study was a retrospective analysis of prospectively collected data. We proposed that chronic rhinosinusitis (CRS) is classified into four phenotypes by cluster analysis. In this study, we demonstrated polyp recurrence rate was different between the three phenotypes. Patients with ECRSsNP and NECRSsNP had a higher polyp recurrence rate than NECRSwNP. Patients with ECRSsNP tended to show higher polyp recurrence than patients with NECRSsNP, but not reaching statistical significance. In this study mucosal eosinophilia was defined by a cutoff value of 80.5/HPF.

REFERENCES