Comparison of CT and Pathophysiologic Recovery in Sinusitis

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Abstract

Background and Objectives
This study was designed to investigate the difference between clinical and pathophysiologic recovery according to recovery periods in the rabbit sinusitis model.

Materials and Methods
Experimental sinusitis in rabbits was made by using Modified Atkinson Method.

CT scans were obtained prior to the induction of sinusitis and at 8 weeks after reopening.

Results
The sinus opacification in CT scan and ciliary beat frequency in scanning electron microscopy were scored in a semi-quantitative manner.

Conclusions
Incomplete functional and histopathologic recoveries from sinusitis can require different periods of time.

Methods and Materials
A synthetic sponge was inserted into the right-side nasal cavities of 15 rabbits. After 2 weeks, the maxillary sinuses were induced and confirmed by computed tomography (CT) scan. The opacification in CT scan was graded.

Fig. 1. Maxillary sinus.

Fig. 2. Computed tomographic findings.

Fig. 3. Histopathologic findings.

Fig. 4. Scanning electron microscopic findings.

Fig. 5. Transmission electron microscopic findings.

Fig. 6. Different patterns of clinical and pathophysiologic recoveries according to recovery period.

Introduction
There were many reports about changes of sinus mucosa from sinusitis according to recovery periods. However, some opinions were contrary to each other. This study was designed to analyze the radiologic, functional, and histologic recoveries of sinus mucosa from sinusitis and to investigate the difference between clinical and pathophysiologic recovery according to recovery periods in the rabbit sinusitis model.

Results
Examinations were performed.

Transmission Electron Microscopic

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References