



## CHAPTER 1

### INTRODUCTION

Nasal polyposis can be defined as a chronic inflammatory disease of the paranasal sinus mucosa, leading to a protrusion of benign edematous polyps from the meatus into the nasal mucosa.<sup>(1)</sup> The etiology and pathogenesis are still unknown.<sup>(2)</sup> Nasal polyps are always bilateral in nasal polyposis, and appear as smooth, pale grape-like benign masses in the nose. Unilateral nasal polyps should always be taken in biopsy, keeping in mind differential diagnoses such as carcinoma, inverted papilloma or other benign lesions.

Obstruction at the level of the ostiomeatal complex or at the opening to any paranasal sinus by polypoid disease will almost certainly lead to blockage of mucous clearance from the dependent sinuses. Mucous stasis can result in bacterial overgrowth and subsequent infection. Therefore, the importance of nasal polyposis in the development of chronic or recurrent acute bacterial sinusitis cannot be overemphasized.<sup>(3)</sup>

The Caldwell-Luc procedure has long been the standard approach to the surgical management of polyposis of maxillary sinus. However, it is no longer advocated as routine since the advent of Functional Endoscopic Sinus Surgery (FESS). The principle of FESS is to improve the ventilation and drainage of the sinus by removing the lesion obstructing the ostiomeatal complex and enlarging the natural ostium of the sinus.<sup>(4)</sup> The success of the method depends on the normalization of diseased sinus mucosa, which is capable of regenerating and the decreasing ciliated epithelium could return to normalcy.<sup>(5)</sup> Reported results of these techniques have been very good, but

most of them reported subjective improvement in symptoms with probability of persistent disease by objective evaluation, especially in the nasal polyposis with chronic sinusitis.<sup>(6)</sup> Until nowadays, there still are some controversial concepts about management or creation of the drainage system of diseased sinuses after removing the obstructing disease. Many otolaryngologists believe that the uncinata process, not the maxillary sinus ostium, becomes the critical anatomic factor in surgery for maxillary sinus disease and after improving the ventilation and drainage of sinus by removing the lesion obstructing the ostiomeatal complex, the maxillary sinus mucosa in chronic sinusitis is capable of regenerating itself; and the damaged ciliated epithelium could return toward normalcy. This leads to the concept of small-hole maxillary ostium widening or minimal invasive technique in which the ostium is left undisturbed regardless of size or pathologic condition even in patients with severe polyps.<sup>(7)</sup>

However, some otolaryngologists recommend a large middle antrostomy which includes natural ostium, especially for the maxillary sinus. The implication is that, as a consequence of long persistent sinusitis caused by nasal polyposis, the cilia may be damaged and the mucociliary transport system of the maxillary sinus, in which its direction is usually against gravity, may be dysfunctional. So the natural sinus ostium is not adequate for drainage and it needs a large gravity-dependent drainage.<sup>(8)</sup> The effectiveness of both interventions is still questionable in treatment of patients with chronic sinusitis developed by nasal polyps. The purpose of this study is to compare the effectiveness of two methods in Thai patients, who usually have severe and long-standing nasal disease, and to develop a standard treatment for this disease.