 特別講演

35 Years of Endoscopic Sinus Surgery

— Past, Present, Future —

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Several hypotheses have been put forward in the discussion of sinusitis pathophysiology over the last decades :

Viral and bacterial origin, infection and inflammation, allergy, anatomical variations in the ostiomeatal complex and many others, usually combinations of the above. Whereas for acute rhinosinusitis viral and bacterial backgrounds could well be documented and proven especially for complications of acute disease, no significant evidence could be shown over all these decades that the viral/bacterial component was a major cause for CRS. This was (and still is) reflected by the fact, that chronic rhinosinusitis usually cannot be cured by antibiotics. Good effects shown by Macrolides appear to be due to the anti-inflammatory efficacy rather than the antimicrobial one.

The mechanical aspect of contact areas, which so clearly were visible during endoscopy, not only led to better understanding of mucociliary transport and its disturbances, but finally to the development of FESS, with surprisingly good results in many cases. However not all inflammatory/infectious diseases, when resistant to medication, could be cured by this new type of surgery. Despite corticosteroids giving excellent results in special cases of eosinophilic disease, type I-allergy appears to play no major role in most forms of chronic rhinosinusitis. On a global scale, the role of regional/local or even ethnical factors is still unclear.

Recently, two new aspects were put forward : On one side, in patients with chronic rhinosinusitis and nasal polyps fungi were detected in the mucus of the nose and the sinuses which were attacked by the patients eosinophils. Researchers showed that large quantities of major basic protein (MBP) were dumped from the eosinophils on to the fungi. MBP not only is toxic to fungi, but to nasal and sinus mucosa as well, resulting in epithelial damage and inflammation, which may lead to CRS and polyps. As fungi can be demonstrated in almost everyone's nose however, it is still unclear why some people respond with a massive immune reaction to (harmless) fungi.

Other researchers however put forward their findings of Staph. Aureus super-antigens in those CRS-patients, considering this the mechanism to lead to CRS and polyposis. They consider the fungal reaction an unspecific, secondary one. The latest research focuses on Eicosanoids and newly discovered Interleukines, all of which might lead to new (medical) therapy for rhinosinusitis, rather than surgical approaches.

On the other hand, endoscopic techniques have become more and more sophisticated : Today, the transnasal endoscopic closure of CSF-leaks, meningoencephaloceles, benign and malignant tumors, orbital and optic nerve decompression, even intraorbital approaches have all reached a very high level. Endoscopic transnasal approaches to pituitary tumor have become standard, and borders are being pushed towards and through the clivus, beyond the dura, to the apex of the pyramid and even true intracranial lesions in co-operation with neurosurgeons. The development of navigational surgery has substantially facilitated these developments. It looks that a new group of surgeons is devolving, the "Rhino-neurosurgeons". Here the merit of the endoscope is outstanding.

So we are at present looking at three aspects of the endoscopic spectrum :

Firstly, the establishment of the endoscope as the diagnostic tool in the field ; secondly, borders are being pushed forward regarding approaches to and beyond the skull base leading to interdisciplinary co-operation ; thirdly and most

amazingly, we are experiencing an ongoing phase of research and development, which possibly might decrease the frequency of (endoscopic) surgery for inflammatory disease of the nose and the sinuses, like chronic rhinosinusitis and especially, diffuse nasal polyposis, in the future.

So the endoscopes have opened a new way of seeing and understanding normal and pathophysiology of the nose and the sinuses. They will hopefully continue to make our diagnosis more accurate, treatment more efficient and less traumatic. We may expect a very exciting development in rhinology over the next decades.

The presentation includes video clips of some of the latest surgical developments, including trans-skull-base, intracranial procedures.