

signifikant größeren Beschwerdefreiheit führt und daß es sich damit selbstverständlich anbietet, die einfachere, nicht periost-gestielte Operationsmethode von *Lindorf* weiter anzuwenden. Da jedoch immer noch postoperative Beschwerden auch bei vorsichtiger Operationsvorgehen bei den Nachuntersuchungen gefunden werden, sollte hier nochmals eindringlich darauf hingewiesen werden, daß diese Operation nur bei absolut eindeutiger Indikation und entsprechender Notwendigkeit vorgenommen werden sollte und daß man immer primär versuchen sollte, die Alternative des endoskopischen chirurgischen Vorgehens zu versuchen und nur bei absoluter Indikation, wie z. B. Entfernung von Fremdkörpern und Zystektomie, diese Operationsmethode der Fensterung in der Fossa canina Anwendung finden sollte.

## Literatur

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## Invited Commentary:

### „Osteoplastische Kieferhöhlenoperation: Vergleich zweier Operationsmethoden und Ergebnisse einer Nachuntersuchung“

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In addition to the modern endoscopic interventions, which are sometimes overemphasized, Caldwell-Luc procedure continues to remain a routine intervention in very many otorhinolaryngological and maxillofacial surgery units. This operation, first described by the American *Caldwell* in 1883 (4) and the Frenchman *Luc* 1897 (9) to deal with chronic inflammations of the maxillary sinus, was accepted throughout the world in a short time.

Its essence is the cleaning-out of the cavity through an opening made in the facial wall of the maxillary sinus. A large opening is made below the infratubinate, and the secretion produced in the maxillary sinus can freely leave through this towards the nose.

The operation is simple and effective. Its complications, and mainly the neuralgiform pains that occurred in a large proportion of the cases, were taken as natural, though *Lothrop* in 1897 (8) and *Claoue* in 1904 (5) stressed that far fewer complications develop after endonasal interventions.

As concerns the frequently of occurrence of postoperative pain, after *Engleder* et al. (6) I may mention two extreme data: *Büchs* and *Lautenbach* (3) report an incidence of only 6,3%, in contrast with the 76,4% observed by *Rink* (11).

The osteoplastic procedures can largely be categorized into two groups: the method of *Lindorf* (10), in which the bone window freed of periosteum is replaced in the facial wall of the maxillary sinus; and the methods of *Abello* (1) and *Akuamo-Boateng* (2), who leave either only the periosteum or both the periosteum and the mucosa on the bone window. Substantially fewer postoperative complications result after the osteoplastic procedures. *Schargin* et al. (12) classified their patients according to three degrees of severity, and found that, the more severe the original mucosal lesion, the more important it was to select the osteoplastic technique, which ensures

less postoperative pain. In order to avoid possible complications, they followed the method of *Lindorf* (10). *Engleder* et al. (6) attained a similar result, but they left a periosteal flap on the bone window.

A question that arose was how the bone of the freely removed bone window continues to live if it is replaced without any vascular connections. It seems logical that regrowth will be surer and better if the periosteum, or even more so the periosteum and the mucosa together, remains on the bone. This may be true, but the operation becomes more difficult, the surgical region is less clearly visible, and the intraoperative bleeding is more considerable and more disturbing.

How are the vascular connections restored between the bone that has been taken out, freed from its periosteum, and replaced, on its environment? The animal experiments of *Lindorf* (10) demonstrated that this occurs first in the spongiosa and then in the periosteum. The studies by *Schenk* (13) proved that there should not be a space larger than 1 mm between the bone edges, as the regenerated vessels can not span greater distances than this. As a surgical technique, *Lindorf* (10) produces overlapping bone edges with a view to avoiding the gap.

The publication of *Krennmair* and *Lugmayr* (7) is important because it proved that the result of the simpler surgical procedure of *Lindorf* (10) is just as good as, or even better than that of the more difficult method of *Abello* (1) or *Akuamo-Boateng* (2). In contrast with the original Caldwell-Luc operation, both procedures are associated with much lower risk of complications.

## References

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## Kongreßankündigungen

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