

## **CEREBROSPINAL FLUID RHINORRHEA: PREVENTIVE STRATEGY IN TRANSNASAL-SPHENOIDAL SURGERY**

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### **Introduction:**

Today, cerebrospinal fluid rhinorrhoea still remains a significant cause of morbidity in neurosurgery (4-17%), especially in skull base surgery and in transsphenoidal surgery (1%). In transnasal sphenoidal microsurgery, an intraoperative cerebrospinal fluid leak is easily and immediately resolved through adequate tamponade, whereas a long-term cerebrospinal fluid leak is much more subtle and formidable; at times if a more serious meningeal irritation occurs this will require that the patient be hospitalised in an infectious diseases unit. The purpose of this recent work is to find an added effective technique in the prevention of post-surgical cerebrospinal fluid rhinorrhoea in transnasal sphenoidal surgery for the treatment, in particular, of pituitary adenomas.

### **Materials and Methods:**

In this recent period (12 months), we treated 28 cases of transnasal sphenoidal microsurgery for pituitary adenoma. Eighteen of these cases were checked after a period of 4-6 months after the surgical operation. At the end of the operation, in the reconstruction phase, we systematically used a T-Dural patch to obtain a hermetic closure of the continuous osteo-dural approach.

### **Results:**

The surgical technique requires an extremely meticulous reconstructive phase, especially for the final positioning of the T-Dural patch (2 or more layers are often used). Eighteen patients from this recent case study (2009-2010) have already been checked, as usual, 3-4 months after the surgical operation, and none of them presented cerebrospinal fluid rhinorrhoea, nor was there any suspected leak.

### **Conclusions:**

In our experience, now covering a long period of transnasal sphenoidal microsurgery of the pituitary adenomas (another 2,500 cases treated from 1978 up to now), the final reconstruction phase remains very important and has undergone various modifications over time, but always within the context of avoiding long-term complications, mainly a cerebrospinal fluid leak.

The technique presented, consisting of the use of the T-Dural patch, even in several layers, has turned out to be a versatile technical solution which is easy to implement.

We feel that this technique can always be proposed, not only in cases of intraoperative cerebrospinal fluid rhinorrhoea, but also, and especially, for the systematic purpose of prevention.

We are currently using it routinely in the final reconstruction phase.

### **Bibliography:**

Neurosurgery 60 /ONS Suppl 2): ONS-295-ONS-304, 2007

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