

Shift from microscopic hypophysectomy to an endonasal endoscopic approach: experience in 28 patients

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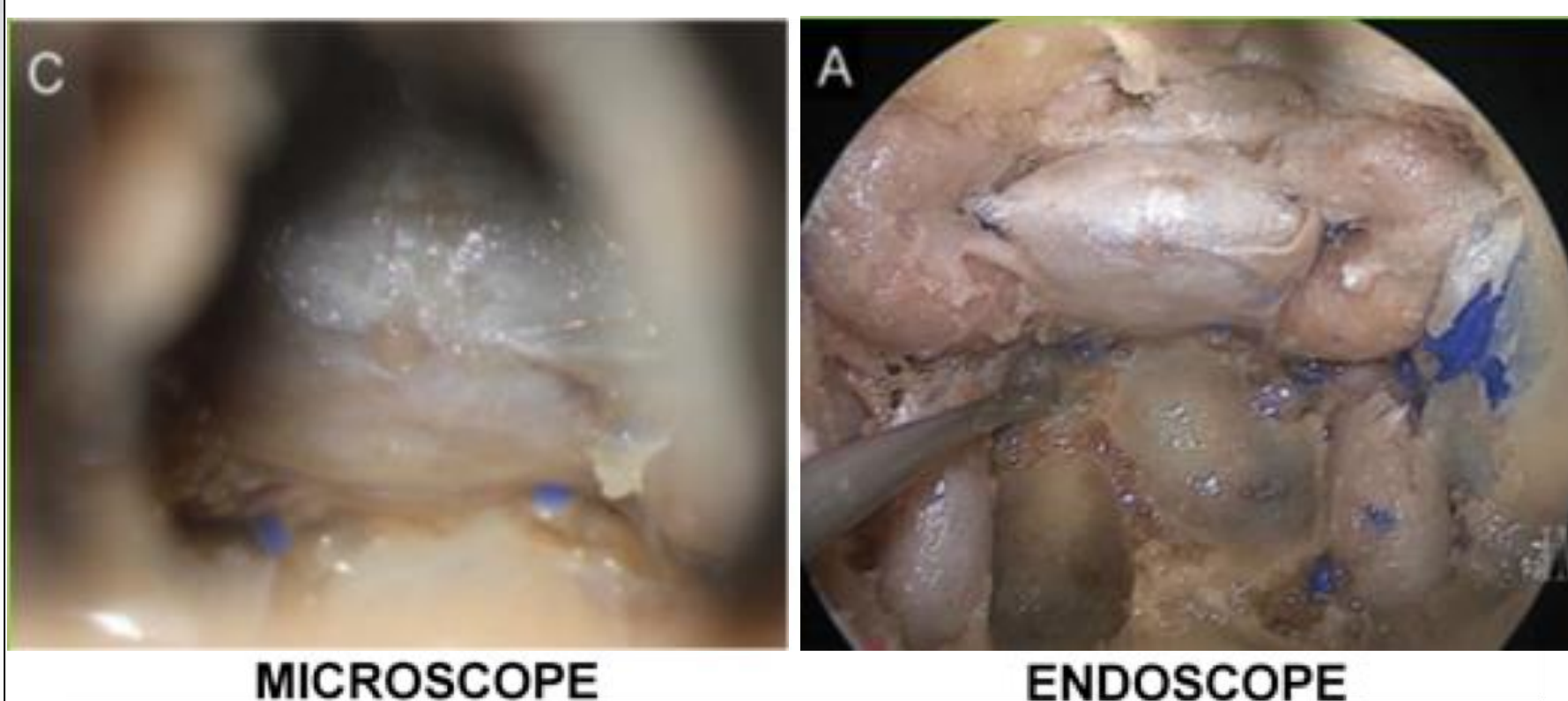
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Introduction

In our neurosurgical department, we changed from microscopic approach to an endonasal endoscopic approach in the treatment of pituitary adenoma at the end of 2012. We present our results in 28 patients.



MICROSCOPE

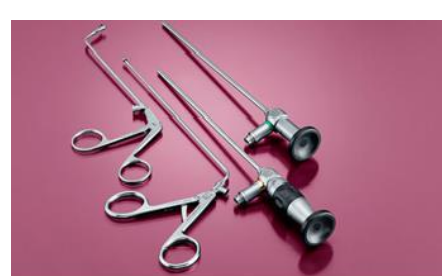
ENDOSCOPE

Microscope



<ul style="list-style-type: none"> Daily used 3D view Speculum protects nasal mucosa No obstruction of operation field 	<ul style="list-style-type: none"> Tunnel vision No lateral visualisation (carotido-optic recess) Nasal packing : headache (35%)
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Endoscope



<ul style="list-style-type: none"> Superior visualisation of sinus sphenoidalis Extended approach (resection tuberculum sellae) No nasal packing 	<ul style="list-style-type: none"> Learning curve Damage intranasal mucosa?
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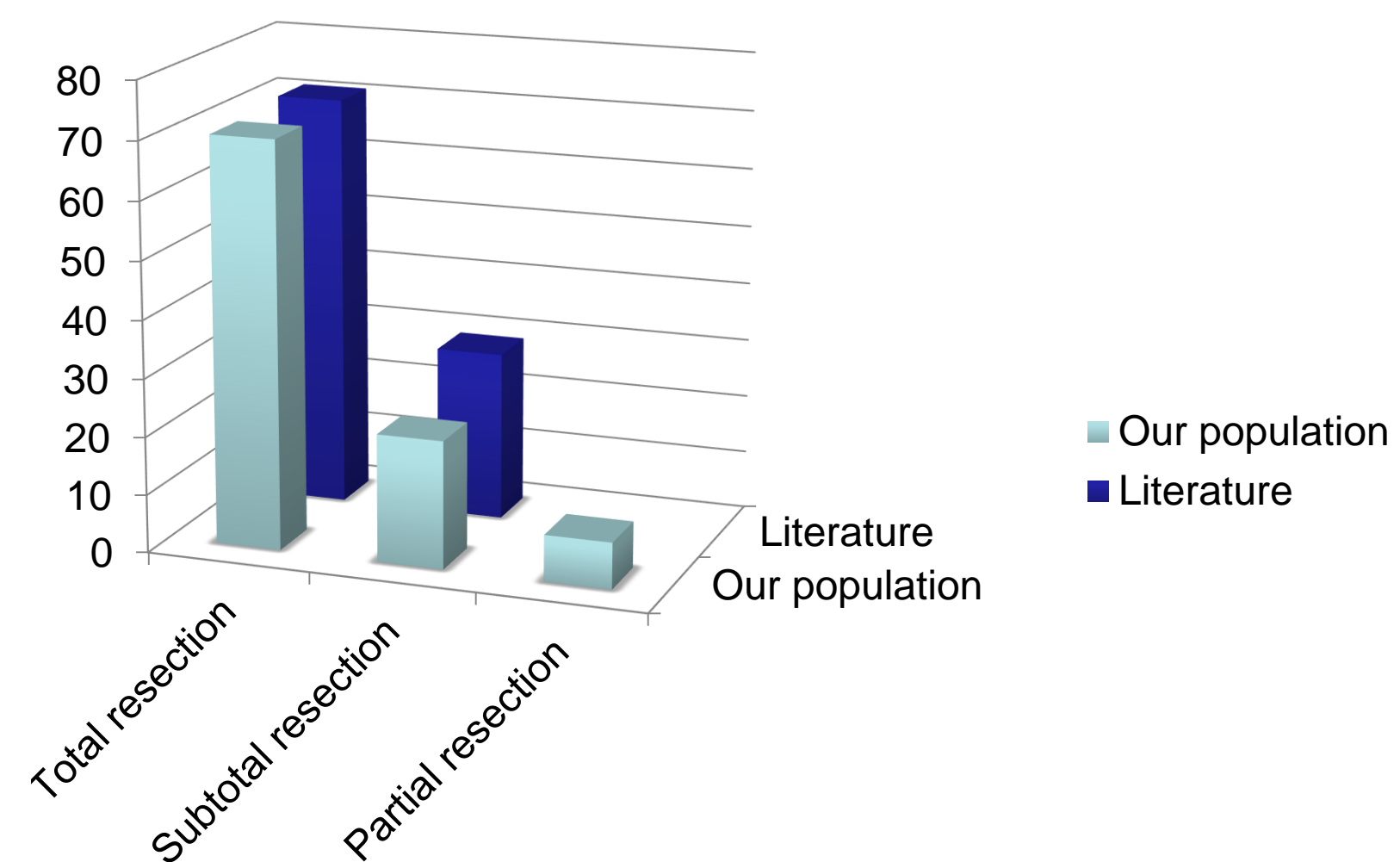
Methods

Between 2013 and 2015, 28 patients with a pituitary adenoma were surgically treated, four patients with a secreting micro-adenoma and 24 patients with a macro-adenoma. Pre-operatively a 3D CT scan of the brain was made for intra-operative neuronavigation. Installation in semi-sitting position. Surgery was performed by an otolaryngologist together with a neurosurgeon.

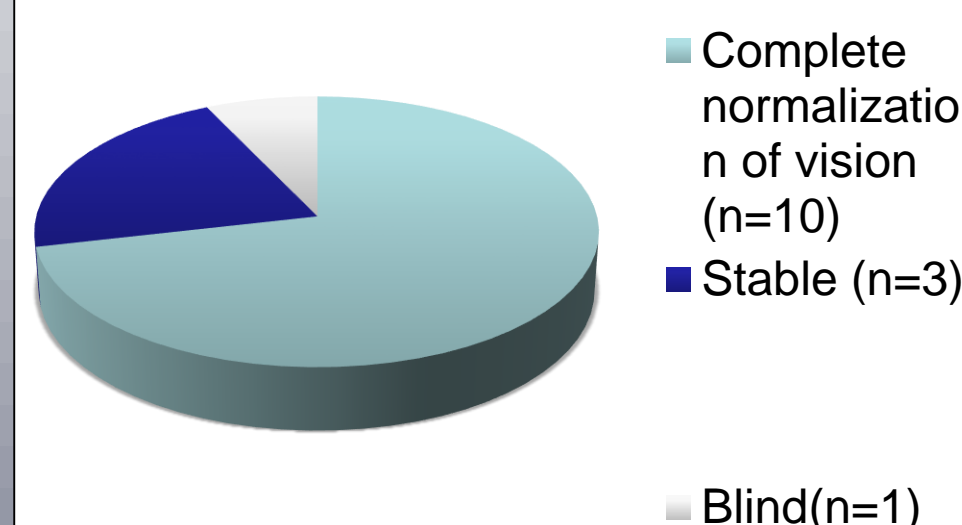


Results

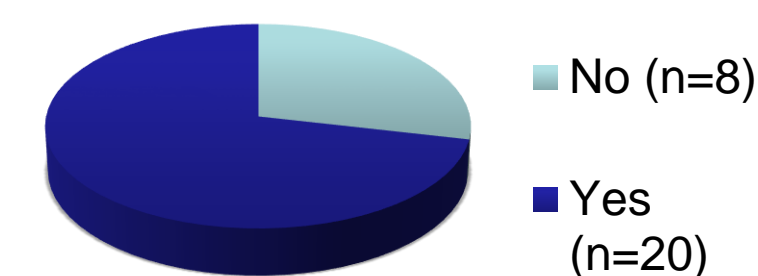
Complete resection was achieved in 20 of 28 patients, subtotal resection in six patients and partial resection in two of 28 patients. All patients (n=4) with an endocrine active micro-adenoma were in complete biochemical remission. Ten patients with preoperative visual dysfunction had a complete normalization of vision postoperatively, three were stable and one patient became completely blind. Eight out of 28 patients had a normal postoperative hormonal status and no need for substitution. None of the patients with preoperative panpituitary insufficiency (n=11) did recover. Eight patients had a transient diabetes insipidus, only three had a permanent diabetes insipidus. There was no mortality. No infections nor any postoperative CSF leakage was documented.



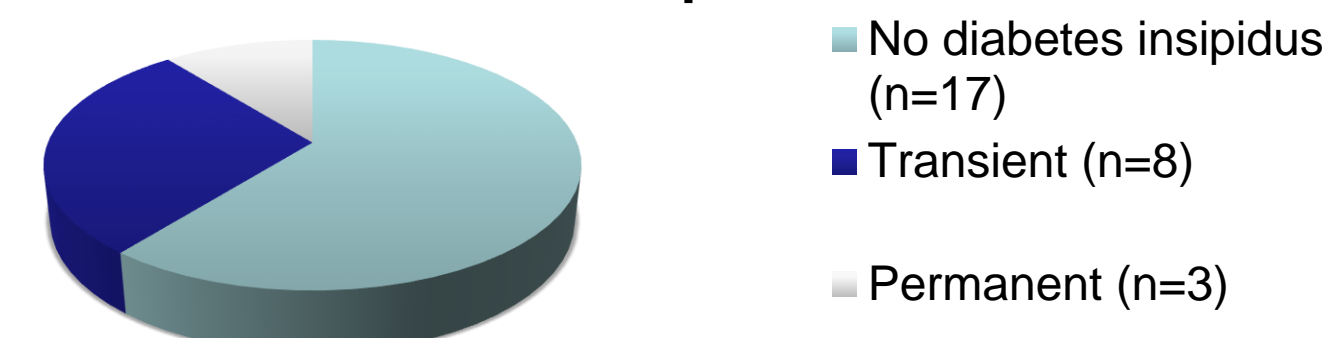
Preoperative visual dysfunction (n=14)



Need for substitution



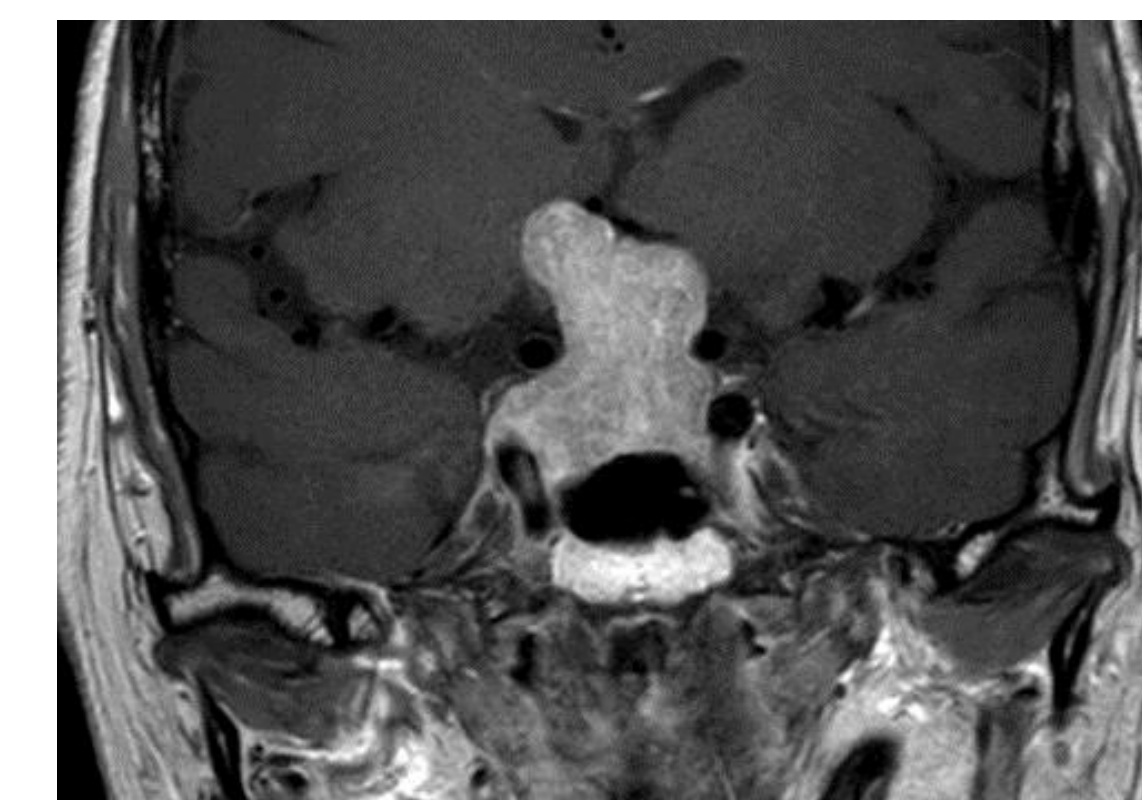
Diabetes insipidus



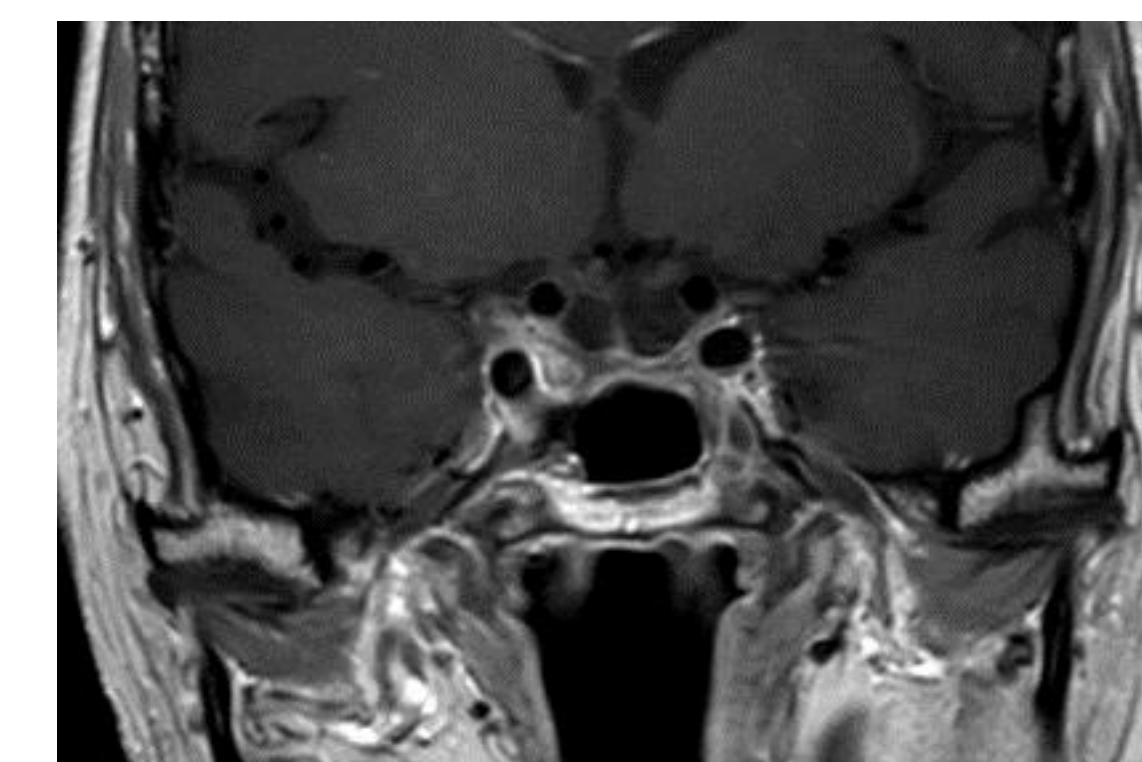
Conclusions

The endonasal endoscopic approach seems to be a safe procedure for the treatment of a pituitary adenoma. Our results are similar to the current literature.

An extended endoscopic approach with resection of the tuberculum sellae may be helpful in obtaining complete resection in giant adenomas.



Preop



Postop

Bibliography

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