



Expedient Approaches for Craniopharyngioma Surgery: Microscopic & Endoscopic Hybrid Surgery

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Introduction

We describe our expedient surgical strategy for craniopharyngiomas and hybrid surgery using microscope and neuroendoscope for total tumor removal.

Approaches (-2000) by microsurgery

38 cases with

craniopharyngiomas

31: Pterional/subfrontal

approaches

5: Interhemispheric

approachs

1: Suboccipital approach

1: Subtemporal approach

Expedient Approaches and neuroendoscopic surgery (2001-)

53 cases with

craniopharyngiomas

9: Pterional/subfrontal

approachs

25: Interhemispheric

approaches

11: Transsphenoidal

approaches

5: Endoscopic burr hole

surgeries

3: Sboccipital approach &

Subtemporal approach

Methods

Ninety one patients with cranipahryngigoma were treated our Hospital (38 patients operated by only microscope from 1974 to 2000, 53 patients operated by hybrid surgery using microscope and endoscope from 2011 to 2012). We analyzed recurrence rate and GOS of only microscopic surgery (1974-2000) vs. hybrid surgery.

Results

Samii's grade of 91 patients was as follows; Grade I -1, II-16, III-37, IV-31, V-6. Expedient surgical approaches were 40 pterional/subfrontal, 30 interhemispheric, 16 transsphenoidal approaches, so on. Eight (21%) in 38 patients were recognized tumor recurrence from 1974 to 2000 by only microscopic surgery. On the other hand, 5 (9.4%) in 53 patients recognized tumor recurrence from 2001 to 2012 operated by hybrid surgery using microscope and neuroendoscope. Advantage of hybrid surgery is as follows; wide and clear view, fit to deep-seated tumors, ordinary instruments can use, microscopic surgical education to junior Neurosurgeon can do, and residual tumor of dead space for example under optic chiasm by hybrid surgery. On the other hand, disadvantage of this surgery is as follows; 2D, special practice is needed, narrow space, adhesion, ossified tumor, or vascular tumor.

Learning Objectives

Hybrid surgery using microscope and endoscope (hybrid surgery) of craniopharyngiomas

Conclusions

We introduce expedient approaches and our hybrid surgery using microscope and neuroendoscope for craniopharyngioma surgery. This procedure is useful to do conventional microneurosurgery for surgical education, moreover, it can remove residual tumor by hybrid surgery.

