

FP95

Expedient approaches for craniopharyngioma surgery: micro and endoscopic hybrid surgery

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Subject: We describe our surgical strategy for craniopharyngioma using hybrid surgery of microscope and neuroendoscope.

Materials and Methods: Ninety one patients with cranipahrynigoma 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 of only microscopic surgery (1974-2000) vs. hybrid surgery.

Result: 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 transshenoidal 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.

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