



Neurocognitive Outcome in Patients with Nonfunctional Pituitary Tumor Treated with Transsphenoidal Surgery: Preliminary Report

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Introduction

The patients with pituitary tumors could experience neurocognitive deficit. The tumor may compress adjacent structures such as optic nerve, third ventricular floor, mammillary body, and hypothalamus. The endocrine dysfunction such is associated with memory function decline. In general, TSA is considered less invasive then transcranial surgery. Therefore, we conducted this prospective study to evaluate the neurocognitive function.

Methods

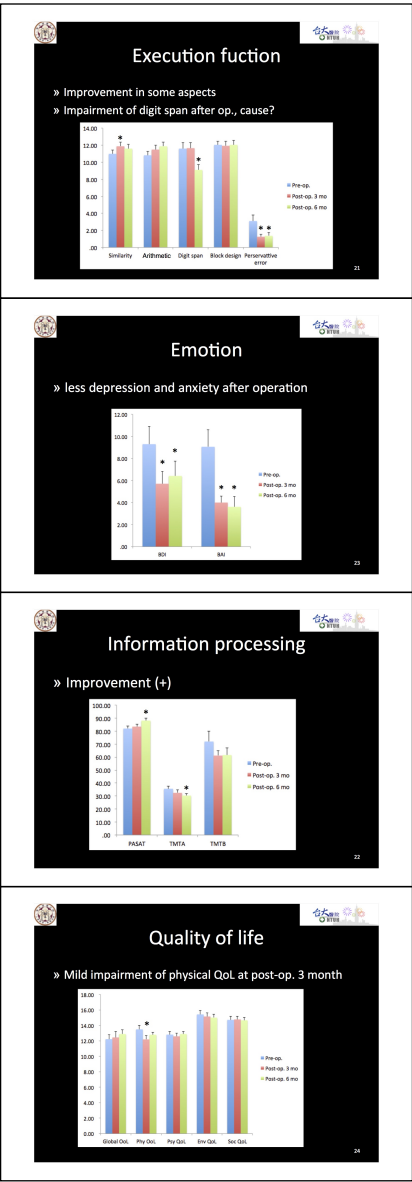
This is a prospective, longitudinal study since January, 2012. We performed nerocognitive studies three times, which were before operation, 3 months, and 6 months after operation. The neurocognitive tests included, MMSE, WAIS 3rd Taiwan ed, Wisconsin Card Sorting Test - Modeified, Trail Making Test, Word Sequence Learning Test, Paced Auditory Serial Addition Test. The Quwstionnaires included, piutitary symptoms scale, Beck depression inventory, Beck anxiety inventory (Self-access), Beck anxiety inventory (Family-access), WHO QOL, NTU irritability scale (Self-access), NTU irritability scale (Family-access).

Results

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Patient characteristics:
There were 36 cases enrolled. The mean age was 44.8 years. There were 16 males and 20 females. All patients were diagnosed of pituitary macroadenoma, and were all treated with transsphenoidal operation. Twenty-eight cases were followed for three months and nineteen were followed for six months. Neurocognitive function:
Before the operation, the patients have mild neurocognitive impairment, and it was partially reversed by the surgery. For memory, the free recall and cued recall were impaired before and improved after the operation. Some aspects of the executive function improved. Emotion and quality of life:
Emontional disturbance also improved after surgery. The quality of life remains unchanged, except mild decline of physical QoL in early post-op. period. Large tumor size, apoplexy, and 3rd ventircular compression could result in more impairment of neurocognitive function. QoL is influnced both by mood problems and tumor mass effect.

Conclusions

The nurocognitive function, memory, and quality of life could be impaired by the pituitary macroadenoma, and would have improvement after the transsphenoidal surgery. Further investigation about the hormone status and the neurocognition is needed.



Learning Objectives

By the conclusion of this session, participants should be able to: 1) Stay aware of the neurocognitive decline of the pituitary, 2) Transsphenoidal surgery could reverse the nurocognitive deficit.

References

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