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The choice of surgical approach for thalamic tumors

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Introduction: Thalamic tumors are relatively rare tumors growing in a highly functional part of brain. They are more frequent in pediatric population. Their surgery is challenging and a high morbidity is possible. Relatively benign nature of many of these tumors means that an attempt for radical resection should frequently be peformed. The approach has to be very carefully planned, sometimes with the help of modern diagnostic methods like DTI. The location and projection of the tumor in the thalamus playes an important role in choosing the approach. The pitfals of these approaches are presented.

Material: We have studied a group of 12 pediatric patients with thalamic tumors treated from 2005 - 2012. There were 9 males and 3 females, age ranged from 1-18 years (mean 11 years). Transcortical approach was used 4x, transcallosal 4x, transsylvian 2x and supracerebellar infratentorial 2x.

Results: Gross total resection was achieved in 5 cases, subtotal in 4 and partial in 3. There were 9 pilocytic astrocytomas, one subependymal giant cell astrocytoma, one diffuse astrocytoma G II and one glioblastoma. All patiens are still alive with the mean follow-up 5 years. There was no permanent morbidity in this group.

Conclusion: Thalamic tumors might be safely radically resected if correct approach is used. The choise of approach is based in the projection of the tumor. Smaller tumors which are not close to the thalamic surface might be followed or biopsied if there is a likelyhood of its malignit nature. Oncological treatment should be reserved for malignant tumors.

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