A study retrospectively reviewed clinical data from 80 patients who underwent resection of thalamic tumors between 2015 and 2021. Data on patient survival and disease progression status were obtained retrospectively to calculate overall survival (OS) and progression-free survival (PFS).

No patients died during the perioperative period and two patients suffered postoperative coma. Tumors were totally resected in 44 cases (55 %), subtotal resected in 21 cases (26.25 %), and partially resected in 15 cases (18.75 %). Thirty-five cases of hydrocephalus occurred within 1 month after operation(43.75%). Surgical approaches associated with hydrocephalus were as follows: hydrocephalus occurred in seven cases after trans-frontal lateral ventricle approach for tumor resection (62.9%), in 17 cases after through parieto-occipital transventricular approach tumor resection (43.58%), and in one case after trans-frontal lateral ventricle approach for tumor resection + third ventriculostomy (7.1%). Postoperative muscle strength decrease occurred in 41 patients (51.25%). Longer PFS and OS were correlated with the degree of resection in patients with thalamic glioblastoma ($P < 0.05$) and had no relationship with hydrocephalus.

Surgical treatment of thalamic tumors is an effective therapeutic method. The incidence of postoperative hydrocephalus is not associated with tumor size, degree of tumor enhancement, peritumoral edema, tumor invasion, midline crossing, and pathological grade. The incidence of postoperative hydrocephalus was higher in patients with preoperative hydrocephalus and low resection degree, and lower in patients with endoscopic third ventriculostomy. The risk of early postoperative hydrocephalus in thalamic tumors is high. Intraoperative third ventriculostomy could reduce the incidence of early postoperative hydrocephalus. PFS and OS were longer in patients with thalamic glioblastoma with a high resection degree ($P < 0.05$) and were not associated with hydrocephalus [1)].

Cao et al. reviewed the clinical presentation, surgical approach, perioperative mortality and morbidity, and outcomes of 111 operated patients (71 males, 40 females; mean age at presentation, 33.4 ± 13.2 years) with unilateral thalamic tumors.

Results: The most common clinical presentations were increased intracranial pressure (65%) and motor deficits (40%). Five surgical approaches were used depending on tumor location; the most common was the transparieto-occipital approach (47.7%). According to peri- and post-operative magnetic resonance imaging findings, the tumors were totally resected in 29 cases (26.1%), subtotal resected in 54 cases (48.6%), and partially resected in 21 cases (18.9%). Five patients died during the perioperative period (4.5%, 5/111). The most common morbidity was motor deficits (21.7%, 23/106). According to histological findings, there were 50 high-grade and 61 low-grade tumors. Median survival of patients with low- and high-grade tumors were 40 and 12 months, respectively (mean follow-up, 37.3 months). Survival was significantly longer in cases of total or subtotal resection (median, 28 months) compared to partial resection or biopsy (median, 12 months). Survival was poorer in adults than in previously reported pediatrics.

Surgical treatment of adult thalamic tumors must be individualized according to tumor location. Low-grade tumors and total/subtotal resection seem to be predictors of better surgical outcomes. Nevertheless, the outcome of adult patients was still worse than pediatric patients [2)].

---

69 children who presented with a thalamic tumor between 1989 and 2003 were retrospectively reviewed. Three groups of tumors were analyzed separately: 1) unilateral thalamic tumors (54 lesions); 2) thalamopeduncular tumors (six), and 3) bilateral thalamic tumors (nine). Of the patients in

whom a unilateral thalamic tumor was diagnosed, 33 had an astrocytic tumor. Of the 54 patients, 32 had a low-grade and 22 had a high-grade tumor. The survival rate was significantly better for patients with the following characteristics: symptom duration longer than 2 months ($p < 0.001$), lesions with low-grade histological features ($p = 0.003$), and tumor excision greater than 90% at surgery ($p = 0.04$). The perioperative morbidity and mortality rates were 37 and 4%, respectively. Fifty-four percent of the patients in this group had a long-term and independent survival. The thalamopeduncular tumors were mostly pilocytic astrocytomas, which had a good prognosis following surgery. The bilateral thalamic tumors in this series were mainly low-grade astrocytic lesions, and more than half of the children attained long-term survival (mean follow-up duration 4.5 years).

Most tumors arising in the thalamus are astrocytic, of which less than half are high-grade lesions. Histological evaluations should be performed in all patients in whom resection is being considered for discrete lesions. Long-term survival is possible in patients with these tumors [3)]

Martínez-Lage et al. review the clinical data of 20 children with TTs seen at the hospital and compare the findings with those in the current literature. An acute presentation is not rare and was encountered in 20% of our patients, although most individuals had a subacute or slow evolution. Symptoms and signs of raised intracranial pressure (65%), motor deficits (40%), and seizures (35%), alone or in combination, were the most frequent manifestations of TTs. Behavioral and mental changes are not uncommon in TTs and were found in 25% of our patients. Involuntary movements (10%) and the classic thalamic syndrome (5%) were quite exceptional. Infants and young children with TTs may present with macrocephaly, psychomotor delay, and failing vision or disorders of ocular movements [4)].

1)
Zhang L, Wang C, Zeng X. Risk Factors for Early Hydrocephalus on Post Unilateral Thalamic Tumor Resection. Front Surg. 2022 Apr 8;9:814308. doi: 10.3389/fsurg.2022.814308. PMID: 35465419; PMCID: PMC9023863.
2)
Cao L, Li C, Zhang Y, Gui S. Surgical resection of unilateral thalamic tumors in adults: approaches and outcomes. BMC Neurol. 2015 Nov 7;15:229. doi: 10.1186/s12883-015-0487-x. PMID: 26545867; PMCID: PMC4636900.
3)
Puget S, Crimmins DW, Garnett MR, Grill J, Oliveira R, Boddaert N, Wray A, Lelouch-Tubiana A, Roujeau T, Di Rocco F, Zerah M, Sainte-Rose C. Thalamic tumors in children: a reappraisal. J Neurosurg. 2007 May;106(5 Suppl):354-62. doi: 10.3171/ped.2007.106.5.354. PMID: 17566201.
4)
Martínez-Lage JF, Pérez-Espejo MA, Esteban JA, Poza M. Thalamic tumors: clinical presentation. Childs Nerv Syst. 2002 Aug;18(8):405-11. Epub 2002 May 25. PubMed PMID: 12192500.