Adult ependymoma findings

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Findings of:
Ho VKY, Gijtenbeek JMM, Maas SLN, Taal W, van Linde ME, Broen MPG, van Rij CM, van der Weide HL, Wagemakers M, Ter Laan M, de Vos FYF, Bromberg JEC; Dutch Society for Neuro-Oncology (LWNO).
Adult ependymoma: results from the Dutch Brain Tumour Registry on primary treatment and survival.
J Neurooncol. 2025 Nov 5;176(1):73. doi: 10.1007/s11060-025-05278-5. PMID: 41191161.

Good question. Here are the main findings from the paper **Ho VKY, Gijtenbeek JMM, Maas SLN, et al. "Adult ependymoma: results from the Dutch Brain Tumour Registry on primary treatment and survival"** (J Neurooncol, 2025). researchinformation.umcutrecht.nl

Key Findings

1. **Cohort and Data**
    - They analyzed **575 adult patients** with newly diagnosed ependymoma in the Netherlands (2014–2023) using the Dutch Brain Tumour Registry. researchinformation.umcutrecht.nl
    - Tumor locations: 12.9% supratentorial, 22.5% posterior fossa, 64.6% spinal. researchinformation.umcutrecht.nl
2. **Surgical Resection**
    - Incomplete resection (i.e., residual tumor after surgery) was more common in posterior fossa tumors, and in larger or metastatic/multifocal ependymomas. researchinformation.umcutrecht.nl
    - This suggests that anatomical location and tumor burden substantially influence the feasibility of complete resection.

3. **Use of Adjuvant Radiotherapy (RT)**

    - Among patients with **WHO grade 1–2** ependymoma that were metastatic, multifocal, or incompletely resected (n = 173), **47** received adjuvant RT (27.2%). researchinformation.umcutrecht.nl
    - For **WHO grade 3** ependymoma (more aggressive), 26 of 34 patients received adjuvant RT (76.5%). researchinformation.umcutrecht.nl
    - There was substantial variation in RT use across CNS regional tumour boards. The authors used mixed-effect modeling to account for that, and visualized case-mix–adjusted ratios in funnel plots. researchinformation.umcutrecht.nl

4. **Survival Benefit of Radiotherapy**

    - Adjuvant RT was associated with a **significant survival benefit**: hazard ratio (HR) for death was **0.17** (95% CI: 0.06–0.53, $p < 0.01$), even after adjusting for other prognostic factors. researchinformation.umcutrecht.nl
    - This is a strong effect, indicating that RT markedly improves overall survival in selected adult patients.

5. **Prognostic Factors for Overall Survival (OS)**

    - They used Cox proportional hazards regression to identify prognostic factors for 5-year OS. researchinformation.umcutrecht.nl
    - Although not all specific variables are listed in the abstract, the model adjusted for relevant clinical factors, missing data were handled via multiple imputation (m = 10). researchinformation.umcutrecht.nl
    - Importantly, RT remained a strong independent predictor of better survival after adjustment.

6. **Implications / Conclusions**

    - The authors conclude that adjuvant radiotherapy confers a **clear survival benefit** in selected adults with ependymoma. researchinformation.umcutrecht.nl
    - They also emphasize **variation in practice between tumor boards**, suggesting a need for more *coordinated management* and perhaps standardization of when to use RT. researchinformation.umcutrecht.nl
    - Their real-world data support following a more aggressive, coordinated treatment strategy in patients with risk factors (incomplete resection, higher grade, metastatic/multifocal).

Context & Significance

- This is one of the largest contemporary real-world cohorts of **adult ependymoma** from a nationwide registry, which gives weight to their conclusions. researchinformation.umcutrecht.nl
- Historically, data on adult ependymomas have been limited; older series had smaller numbers, making it difficult to draw strong conclusions. For example, a multicenter study from 70 adult patients found trends toward benefit from RT but heterogeneity in outcomes. PubMed
- The findings align with the **Dutch Neuro-Oncology Society (LWNO)** treatment protocol, which already recommends RT in certain risk scenarios. lwno.nl
- The study underscores that while ependymoma is rare, careful treatment planning (particularly regarding RT) can substantially influence outcomes.