JOURNAL WATCH

For reprint orders, please contact: reprints@futuremedicine.com

Our panel of experts highlight the most important research articles across the spectrum of topics relevant to the field of CNS oncology.

Expert panel: **Larry Junck**, University of Michigan Health System, Department of Neurology, Ann Arbor, MI, USA; **Maura Massimino**, Fondazione IRCSS Istituto Nazionale dei Tumori, Via Venezian 1, 20133 Milano, Italy

Jakola AS, Myrnel KS, Kloster R et al. Comparison of a strategy favoring early surgical resection vs a strategy favoring watchful waiting in low-grade gliomas. *JAMA* 308(18), 1881–1888 (2012).

The authors compared survival in population-based cohorts of diffuse low-grade gliomas treated between 1998 and 2009 at two Norwegian university hospitals. The usual practice was biopsy followed by a ‘wait and scan’ approach at hospital A and early resection at hospital B. Early resection was performed in 19 of 66 patients (29%) at hospital A and in 75 of 87 (86%) at hospital B. The groups were comparable in most baseline characteristics except that seizure was a more common initial symptom at hospital A (79%) than hospital B (59%). Median survival was 5.9 years at hospital A, but was not reached among patients treated at hospital B ($p = 0.01$). Expected 7-year survival was 44 versus 68% and the proportion known to have malignant transformation was 56 versus 37%, respectively ($p = 0.02$). Multivariate analysis supported a relative hazard ratio of 1.8 (95% CI: 1.1–2.9) for death among patients treated at hospital A. These results favor a strategy of early resection for patients with suspected low-grade glioma.

– Written by Larry Junck

Erdem-Eraslan L, Gravendeel LA, de Rooi J et al. Intrinsic molecular subtypes of glioma are prognostic and predict benefit from adjuvant

procarbazine, lomustine, and vincristine chemotherapy in combination with other prognostic factors in anaplastic oligodendroglial brain tumors: a report from EORTC Study 26951. *J. Clin. Oncol.* 31(3), 328–336 (2013).

The authors performed a retrospective analysis of gene expression profiling on 140 patients with anaplastic oligodendroglial tumors who were participants in EORTC Study 26951. Patients were treated by random assignment with radiation alone or radiation plus procarbazine, lomustine and vincristine. Unsupervised analysis of gene expression profiling has defined six intrinsic glioma subtypes (IGS). All six were represented in these patients, four in sufficient numbers for analysis. The 1p/19q deletion was found in 29 of 46 patients with IGS-9, six of 25 with IGS-17, none of 26 with IGS-17 and none of 26 with IGS-23. Other genetic changes also differed between IGS groups. Benefit from procarbazine, lomustine and vincristine was apparent in patients in IGS-9 (survival 12.8 vs 5.5 years; $p = 0.0018$), possible in IGS-17 and IGS-18 (significant for progression-free survival but not overall survival), but not in IGS-23. The results suggest that gene expression profiling has the potential to contribute new biological insights as well as clinically useful information in patients with anaplastic oligodendroglial tumors.

– Written by Larry Junck

News & Views

News

Journal Watch

Conference Scene

Future
Medicine part of

Sredni ST, Halpern AL, Hamm CA, Bonaldo Mde F, Tomita T. Histone deacetylases expression in atypical teratoid rhabdoid tumors. *Childs Nerv. Syst.* 29(1), 5–9 (2013).

The authors hypothesized that specific histone deacetylase (HDAC) family members were deregulated in atypical teratoid rhabdoid tumors (ATRTs) and, therefore, a more selective class of HDAC inhibitors would be beneficial to patients with ATRTs. ATRTs are embryonal tumors genetically characterized by inactivating mutations or deletions of the tumor suppressor gene *IN11/SMARCB1*. In fact, in rhabdoid cells, IN11 directly represses cyclin D1 transcription by recruiting a protein complex containing HDAC1 to its promoter. Histone acetylation depresses several antiproliferative cellular functions, including cell cycle inhibition, growth arrest and apoptosis. On the other hand, epigenetic changes due to histone modifications are associated with tumor initiation and progression. To verify their hypothesis, the authors studied the expression level of HDAC family

members through microarray gene profiling and found *HDAC1* to be the only gene significantly differentially expressed, with a fivefold increase. Owing to the very poor prognosis of this childhood disease, the finding suggests that HDAC inhibition may be beneficial for the treatment of childhood ATRT.

– Written by Maura Massimino

Benesch M, von Bueren AO, Dantonello T et al. Primary intracranial soft tissue sarcoma in children and adolescents: a cooperative analysis of the European CWS and HIT study group. *J. Neurooncol.* 111(3), 337–345 (2012).

The aim of this paper was to retrospectively collect all cases of intracranial sarcoma recruited in German-speaking countries during a 20-year timespan. These cases were retrieved by looking at sarcoma and brain tumor databases. A total of 19 cases were found in the biggest collection of cases ever reported.

The conclusions of the paper, which are important because the disease is so rare, are: surgical resection is important and completeness must be achieved in more than one surgical treatment; radiation therapy means a better progression-free survival if applied soon after surgery; and patients deserve whole CNS comprehensive staging by MRI and cytological spinal fluid assessment, as is routinely carried out for primary brain tumors.

– Written by Maura Massimino

Financial & competing interests disclosure

The authors have no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.

No writing assistance was utilized in the production of this manuscript.