

Medulloblastoma of early childhood. Salvage and outcome after initial CSI sparing approaches

Lucie Lafay-Cousin, Daynielle-Rose Cansanay, Craig Erker, Erin Ratterman, Mary Pat Schlosser, Liana Nobre, Rebecca Ronsley, Vanan Magimairajan, Natasha Pillay-Smiley, Andrew Cluster, Susan Chi, Annalise Bracher, Lindsey Hoffman, Akanksha Senapati, Marie Simbozel, Martin Minarek, Andrea M Cappellano, Kenneth J Cohen, Vicente Santa-Maria Lopez, Andres Morales-La Madrid, Chantel Cacciotti, Lorena Baroni, Ralph Salloum, Ashley S Margol, George Michael, Sylvia Cheng, Juliette Hukin, Dolly Aguilera, Claire Mazewski, Cassie Kline, Jonathan L. Finlay, Mohamed S. Abdelbaki, Jeffrey C. Murray, Kathleen Dorris, Bruce Crooks, Kevin F. Ginn, Nisreen Amayiri, Alvaro Lassaletta, Jordan R. Hansford, Sara Khan, Stephen W. Gilheeney, Michal Zapotocky, Valérie Larouche, Shafqat Shah, Amar Gajjar, Sébastien Perreault, Sabine Mueller, Zhihong J. Wang, Kara Matheson, Simon Bailey, Steven C. . Clifford, Giles Robinson, Dufour Dufour, Stefan Rutkowski, Hamburg-Eppendorf, Eric Bouffet.

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Medulloblastoma of early childhood. Salvage and outcome after initial CSI sparing approaches

Authors: *Lucie Lafay-Cousin, Daynielle-Rose Cansanay, Craig Erker, Erin Ratterman, Mary Pat Schlosser, Liana Nobre, Rebecca Ronsley, Vanan Magimairajan, Natasha Pillay-Smiley, Andrew Cluster, Susan Chi, Annalise Bracher, Lindsey Hoffman, Akanksha Senapati, Marie Simbozel, Martin Minarek, Andrea M Cappellano, Kenneth J Cohen, Vicente Santa-Maria Lopez, Andres Morales-La Madrid, Chantel Cacciotti, Lorena Baroni, Ralph Salloum, Ashley S Margol, George Michaiel, Sylvia Cheng, Juliette Hukin, Dolly Aguilera, Claire Mazewski, Cassie Kline, Jonathan L. Finlay, Mohamed S. Abdelbaki, Jeffrey C. Murray, Kathleen Dorris, Bruce Crooks, Kevin F. Ginn, Nisreen Amayiri, Alvaro Lassaletta, Jordan R. Hansford, Sara Khan, Stephen W. Gilheeney, Michal Zapotocky, Valérie Larouche, Shafqat Shah, Amar Gajjar, Sébastien Perreault, Sabine Mueller, Zhihong J. Wang, Kara Matheson, Simon Bailey, Steven C. . Clifford, Giles Robinson, Dufour Dufour, Stefan Rutkowski, Hamburg-Eppendorf, Eric Bouffet.*

Accosiation: *Alberta Children's Hospital, Calgary, Canada*

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Introduction: Infant medulloblastoma (iMB) is usually treated without craniospinal irradiation (CSI) to avoid neurocognitive late effects. Unfortunately, many of them relapse. In a previous cohort of 380 relapse iMB, initially treated without CSI, we reported a 3-year post relapse survival (PRS) of 52.4%. We described differences in PRS and salvage therapies according to molecular subgrouping.

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Methodology: In this extended retrospective cohort, we explored salvage management of SHH/Nodular Desmoplastic (ND) iMB after initial CSI avoidance and for group 4 iMB, we investigated outcome after high dose chemotherapy (HDC) and described salvage management.

Results: For 147 SHH/ND iMB, median time to relapse was 14.7 months (range: 1-139.7). Relapse was local in 40.8%. Of 129 who received curative salvage therapy, half underwent surgery and 74.4% received radiotherapy (CSI 81.3%; median dose: 36 Gy). Patients with localized relapse were more likely to receive CSI dose ≤ 24 Gy or focal RT ($p < 0.001$; $p < 0.008$). The 3-year PRS was 61.6% For the 36 group 4 iMB, 19(52.8%) relapsed (median time: 21 months) and 5-years PFS was 42.2%. Relapse was local in 42.1%. Patients treated with 3 cycles of HDC had a better PFS compared to 1 or 2 cycles ($p = 0.001$). 17/19 patients received salvage RT (median CSI dose of 36Gy). However, 7 received CSI dose < 24 Gy and 2 underwent focal RT. Three years PRS was 70.2%. No prognostic factor was associated with PRS. The 5 yrs OS for the entire cohort was 71.6%.

Conclusion: Survival of relapsed SHH iMB is not satisfactory and relies on neurotoxic CSI. Maximizing upfront cure to avoid relapse is crucial. CSI dose ≤ 24 G can be considered for localized relapse. For Group4 iMB, HDC alone was associated with a high relapse rate but 70.5% were salvaged with RT. Such a strategy may be discussed for the youngest of group 4 iMB.