International Collaborations: an essential and noble manner to advance scientific research to the bedside (bench to bedside)

Guest Edited by
Dr Helen L Fillmore, PhD
Cellular & Molecular Neuro-oncology,
School of Pharmacy & Biomedical Sciences,
University of Portsmouth
Portsmouth, UK.

Clinicians and scientists in the neuro-oncology field seldom have the opportunity to celebrate discoveries which bring about cures for patients with brain tumours, even less in the case of high grade gliomas or other aggressive brain tumours. However, in the case of the most common childhood brain tumour, medulloblastoma, perhaps it is time to consider a small celebration with hopes that bigger celebrations are near. Medulloblastomas are still the most common malignant paediatric brain tumour and although many are 'cured' this comes at a high cost with survivors suffering with low quality of life issues due to the aggressive nature of the treatment. The issue has been that this type of tumour is complex (like many others) and currently patients with good prognosis are grouped together with those with poor outcomes receiving the same aggressive treatment. This has been based on diagnostic histopathological classification of biopsy material. Although this information is critical in the design of treatment, it does not include the molecular components that might better define the precise nature of medulloblastoma.

Based on the impressive scientific strides with regard to the molecular understanding of medulloblastoma (as discussed in this issue), there is great hope that when this information is incorporated into the day to day clinical, diagnostic and stratification setting, children with this type of brain tumour will receive more 'personalised' therapy based upon the molecular signature of the tumour. Please see the Donovan article (p148) in this issue to understand our excitement about the potential to reduce toxicity and to focus on and develop specific targeted therapies for the most aggressive subtype of medulloblastoma.

There is great hope that clinicians involved in the diagnosis, treatment and care of children with brain tumours will integrate the molecular analysis into their clinical practices. There is no question that there is much to be done and challenges remain. However there is another reason to celebrate. This scientific achievement is a direct result of an international and multidisciplinary effort. The co-ordinated effort for international leaders in this field to come together to provide a current consensuses is extremely impressive [1,2]. Scientists working on the molecular profiling of patient material recognised the tremendous work done with preclinical models and the scientists working on preclinical models have incorporated the genomic information from patient tissue. Understanding childhood brain tumours, especially medulloblastoma, will continue to improve and, at a fast pace. I am certain that those that are leading the way will continue to push the field forward aggressively. For the moment, however, this type of collaboration is worth celebrating.

At this time, thanks to the incredible co-ordinated effort by many, we now know that it is possible to improve the stratification in patients in order to reduce toxicity to those who have good prognosis and to begin to develop novel specific targeted therapies for those with a poor prognosis. Although many challenges remain and there is much more work to be done, especially in terms of the least understood and most aggressive medulloblastoma subtypes, we celebrate those in this field who have provided the rest of us with an example of how an international effort can lead to enormous gains in the knowledge of a particular tumour. Well-done! ■

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