Surveys, debate, and contemporary practice: lessons to be learnt to improve neuro-oncology care

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The first issue of *Neuro-Oncology Practice* in 2020 is a mix of informative national and international surveys, patient and caregivers' needs as well as pertinent views/counterviews which define various areas of our contemporary neuro oncology practice. The voice of different stakeholders involved in the field: patients, families, clinicians, researchers etc highlighting current practices have been nicely captured, each providing food for thought as to how to address some of the needs and to push the field further.

The issue begins with a *Neuro-Oncology Practice* clinical debate on targeted therapy versus conventional chemotherapy in pediatric low-grade gliomas (LGG). This is a reflection of a frequent point of discussion in most multi-disciplinary tumor (MDT) board meetings throughout the world. While the experience with conventional chemotherapy is much larger, recent exciting advances in molecular genetics leading to increasing use of targeted therapies, in particular the *MEK* inhibitors with emerging clinical evidence is challenging the traditional paradigm. Both groups arguing in favor of one of the modalities in the debate make their point eloquently. However, there is little doubt that a longer follow-up and more experience with targeted therapies is needed before establishing them as the standard of care. Ongoing co-operative group studies (for example, the European LOGGIC trial with clinically relevant endpoints of visual pathway outcome in optic LGG) will hopefully settle the issue in the near future.

Several interesting surveys and populations based studies highlight the current state of neuro-oncology practice. A large retrospective cohort study based largely on a population-based cancer registry in Australia has demonstrated an incremental improvement in survival from 2005 onward, probably with the introduction of temozolomide (TMZ) as a component of standard of care in glioblastoma (GBM). Another group

from the region, the Brain Cancer Biobanking of Australia (BCBA), lists out a comprehensive data item category capture on various aspects including clinical annotations, neuropathological diagnoses, treatment, and follow-up for biobanked brain tumor specimens. The group also suggests multi-tier data capture (essential, preferred, and comprehensive), and the article will be a very useful guide for other centers and organization throughout the world in this important exercise.

A Society for Neuro-Oncology (SNO) members' survey done electronically and presented by Rogers and colleagues revealed less than a quarter of their institutions tracking referral to clinical trial both within and outside their centers. The responders of the survey felt patients' geographical location as the chief challenge for their patients' participation in clinical trials. Interestingly provider from academic medical research centers provided the same frequent barriers. These data serve useful insights and sensitize the neuro-oncology and patient community to overcome some of the barrier to improve participation in clinical trial which is critical to our progress. Another online survey amongst neuro-oncologists in the United States revealed the usage of bevacizumab primarily in patients with recurrent GBM rather than in newly diagnosed patients, reflecting the current status of the drug in routine practice.

Rooney et al present data of an interesting survey performed in the US of 61 websites associated with premier neuro-surgery and neurology hospitals along with 11 professional medical societies. It was found that publicly available patient education material for stereotactic radio surgery (SRS) was written at a reading level significantly above national US recommendation. The authors also highlighted a relative lack of information on several key points identified by important patient populations. Interestingly material from the websites of professional societies were more patient friendly and patient centric. The study raises the need to improve the comprehensibility of the patient information available for the brain tumor patients eligible for SRS.

MGMT promoter methylation is very important for our clinical decision making but still doesn't have a standard methodology to perform it. An international survey of more than 150

respondents from 25 countries presented by Malmström et al revealed variations in methodology and selection of cut-off values. This calls for an urgent need to derive an international consensus guideline for *MGMT* testing, which is so pertinent in our day-to-day practical decision making process for optimal care of glioma patients. Another questionnaire-based survey conducted in the Netherlands in patients with meningiomas pre and post-operatively revealed fatigue to be a common and persistent symptom even after a year of surgery although patient's motivation and activity improved considerably during this time.

Guidelines to delineate target volumes during radiotherapy in GBM have deferred across various groups. A randomized controlled trial with a relatively small sample size tried to address the differences in MD Anderson Cancer Centre (MDACC) and The Radiation Therapy Oncology Group (RTOG) guidelines. In particular, to the approach for the boost volume, Kumar and colleagues have shown some superiority in outcomes in reduced volumes boost phase as per MDACC protocol. However, the results have to be interpreted with fair degree of caution in view of small sample size. Neurosurgical resection in symptomatic radiation necrosis has been shown by Shah et al in a retrospective review of their institutional practice with minimal surgical morbidity. This may have relevance in order to minimize the effect of steroid dependence in these patients.

Philip and co-workers explored the level of distress in patients with HGG and their caregivers in a prospective

longitudinal descriptive design with a high percentage of patients and caregivers reporting clinically significant distress levels. It was interesting to note that the caregivers' distress was primarily on caring issues and activities of daily living at baseline which over a period of time was dominated by psychological concerns. The patients on the other hand at baseline reported existential issues of fear of dying which changed to practical physical challenges during subsequent follow-up. The study reinforces the pressing need to incorporate palliative care as well as addressing the needs of caregivers in patients with HGG during their treatment. Huehnchen and colleagues provide a useful comprehensive review of the current evidence for post-chemotherapy cognitive impairment (PCCI) showing certain regimens and cancer sites such as breast cancer to be particularly affected. An international collaborative series presented by Muto et al evaluated patients with severe renal impairment or undergoing hemodialysis and needing TMZ for their treatment for a high-grade glioma. The authors conclude that a reduction in TMZ dosage may not be needed in these patients although a judicious clinical and hematological assessment may be warranted. Karschnia and co-workers present a series of 11 consecutive patients exhibiting leptomeningeal dissemination in a range of LGG provides some interesting insights in term of their interesting imaging characteristics and impact of localized vs systemic therapies on their outcomes.