INNV-12. OUTCOMES IN A REAL-WORLD PRACTICE FOR PATIENTS WITH PRIMARY GLIOBLASTOMA: IMPACT OF A SPECIALIZED NEURO-ONCOLOGY CANCER CARE PROGRAM

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INTRODUCTION: Standard care for newly diagnosed glioblastoma consists of maximal surgical resection followed by radiotherapy with concurrent and adjuvant temozolomide. Prognosis for glioblastoma still remains poor, with a reported median survival of 14.6 months. Published data indicate that optimal outcomes in this population require involvement of an experienced team providing multidisciplinary care. We report here the outcomes in a real-world setting for glioblastoma patients treated at a specialized neuro-oncology cancer care program. PATIENTS AND METHODS: Data from fifty consecutive patients with primary glioblastoma pursuing care at the Givens Brain tumor Center were analyzed. Coordinated medical care was provided by dedicated neuro-oncology and surgical clinicians, supplemented by care from nurse coordinators, social workers, care guides, genetic counselors, and other specialties. Demographic, pathologic, and clinical information was abstracted from electronic medical records. RESULTS: Median patient age was 58 (range, 23–80) years and 26% were ≥65 years of age. Gross total resection was achieved in 91.5% patients, with 56% of resections performed in the Institution's iMRI suite. A majority of patients received radiation and chemotherapy. In accordance with cancer program guidelines, 48% of the cases were presented at multidisciplinary tumor conferences. A LifeCourse™ care guide was utilized by 30% of the patients. Bevacizumab was used as second-line therapy with/without carboplatin in 63.2% patients. Optune treatment was administered to 27 patients. Additionally, eligible patients enrolled in clinical trials both at primary and recurrent stages. Median progression-free survival (PFS) and overall survival (OS) was 9.1 (range, 2.2–30.5) months and 19.4 (range, 4.6–31.8) months, respectively. End-of-life hospice care was elected by 48% patients. CONCLUSION: PFS and OS in this real-world settings were comparable to outcomes noted in controlled clinical trials. These results indicate that efficient, quality care may be achieved with a multidisciplinary treatment approach, producing exceptional survival rates in patients with glioblastoma.

INNV-13. A NOVEL TELEGRAM CHAT APPLICATION BASED BOT (FLORENCEBOT) FOR BRAIN TUMOUR AFFECTED PATIENTS

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The discoverability of reliable information online is difficult. As the network grows exponentially, unregulated content has the potential to cause harm. Telegram is a popular mainstream chat application. It allows automated software called bots that interact passively with an individual. Florence bot is unique in this space for the patient support; for those affected by brain tumours. It has been developed in PHP and hosted privately by the developer. Florence links to physician generated content (hosted externally on a blogging website) such as introduction, signs and symptoms of brain tumours and various treatment options along with their side effects. The content generates "web view" in Telegram itself, preserving written and multimedia formats. It ensures minimal overheads on the bot, making it responsive. It links to brain tumour channel (automated streamed information working as a public broadcast) and physician-administered support group. A physician designed bot is preferable to a third party mobile application to ensure the accurateness of information. No user-related information is available to bot developers as it does not have tracking and advertising elements; hence safeguards users privacy. It is more accessible and cheaper to deploy than a mobile application as it uses an instant messaging app as its container, which works across computing platforms. Florence bot is expected to bridge the gap for reliable information and real-time support independent of geographical limitations.

INNV-14. ADJUVANT CHEMOTHERAPY AFTER SEVERE MYELOTOXICITY DURING TEMOZOLOMIDE CHEMORADIATION IN GLIOMAS. IT IS FEASIBILE?

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INTRODUCTION: Malignant gliomas are aggressive primitive brain tumor in adults. Today, the standard of care is Temozolomide (TMZ) administered daily with radiation therapy, followed by adjuvant TMZ. TMZ treatment has been considered to have a low toxicity profile. However, during concomitant treatment some patient may develop a severe myelosuppression. This toxicity may be in some cases prolonged and lead to treatment discontinuation. METHODS: We have retrospectively collected data from 5 Italian neuro-oncological centers, about glioma patients who developed severe and prolonged hematological toxicity during concomitant chemoradiotherapy with TMZ. The purpose of this study is to evaluate: percentage of patients receiving adjuvant chemotherapy after severe myelotoxicity; rate of toxicity observed during adjuvant chemotherapy. RESULTS: 54 glioma patients who developed myelosuppression of grade 3 or 4 were considered. Histology was Glioblastoma in 45 patients (83%); 63% of patients were female. Myelotoxicity during concomitant phase occurred at a median of 4 weeks (range 1–8) from the start of treatment. After recovery of myelotoxicity 19 patients did not received any treatment while 35 (65%) were treated with chemotherapy (28 received standard TMZ, one TMZ with metronomic schedule, 2 lomustine and 4 other agents). Among patients treated with TMZ, 13 patients presented hematological toxicity grade 3–4 which required treatment discontinuation in 7 cases (20%). CONCLUSION: the results of our study show that 80% of glioma patients presenting severe myelotoxicity during concomitant radiochemotherapy may be treated with maintenance TMZ after recovery of myelosuppression.

INNV-15. CLINICAL DATA THAT MATTERS: A DISTILLATION OF NEURO-ONCOLOGY CLINICAL TRIAL INCLUSION CRITERIA USING MACHINE LEARNING

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INTRODUCTION: Neuro-oncologic conditions have dismal outcomes, ineffective treatments, poor access to clinical trials, and variability in care. Clinical trials do not capture a patient's complete journey and are restricted to select populations. 'Real-world-evidence' (RWE) attempts to inform point of care decisions through routine collection of data with a clinical-trial-like rigor. RWE complements existing knowledge through broad patient participation, collection throughout disease course, and creation of large multidimensional datasets "knowledge network of disease"[1,2]. RWE implementation is hindered by unstructured data, uncertainty of relevant features, and semantic heterogeneity. Clinical attributes were selected from trial inclusion criteria and prioritized for structuring in clinic notes for abstraction. METHOD: We queried Clinicaltrials.gov from 1/1/2018-12/31/2018, refined to North America, recruiting, interventional, and adult. Meningioma, pituitary, glioblastoma, astrocytoma, oligodendroglioma, and ependymoma were chosen based on incidence[3]. Lymphoma and nerve sheath tumors were omitted. "Brain tumor" and "glioma" were added. 'K-nearest-neighbor' tokenization parsed inclusion criteria[4]. Document term matrix (n-gram) converted text to vectors[5]. A generative probabilistic model using 'Latent Dirichlet Allocation' plotted words into 10 clusters[6]. Hierarchal clustering was used to compare histology with terms. RESULTS: 401 trials parsed into 3676 statements and 4008 keywords. 10 clusters of terms were similarly distributed amongst histologies, suggesting generalizability across tumor types. Cluster revealed 8 categories: 1) Time: enrollment; 2) Performance status: KPS; 3) Testing: mutations, upper limit of normal, routine hematologic laboratory assays; 4) Imaging: extent of surgery; 5) Pregnancy/childbearing; 6) Tumor grade; 7) Treatment history: recurrence, chemotherapy, radiation, time; 8) Informed consent CONCLUSIONS: Dissecting the compendium of clinical trials using machine learning can identify general parameters for trial enrollment to guide RWE clinical collection. Using practical definitions of the most germane trial data, specific information can be sought after and defined to improve research quality, maximize research yields and improve patient care whilst minimizing wasted research and clinical endeavors.

INNV-16. COMPLETE RESPONSE OF THALAMIC IDH WILDTYPE GLIOBLASTOMA AFTER PROTON THERAPY FOLLOWED BY CHEMOTHERAPY TOGETHER WITH TUMOR TREATING FIELDS

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BACKGROUND: Proton therapy is able to apply high radiation doses to the tumor while sparing healthy tissues by reducing integral dose. Tumor Treating Fields (TTFields) are low intensity (1–3 V/cm) and intermediate frequency (100–300 kHz) alternating electric fields that demonstrated significantly increased survival rates in combination with adjuvant temozolomide (TMZ) in patients with newly diagnosed glioblastoma (ndGBM). Here, we report on a patient with biopsied ndGBM IDH wildtype with complete radiological response. MATERIAL AND METHODS: Brain MRI demonstrated an occlusive hydrocephalus and a ring enhancing lesion in the right posterior thalamus in a 42 year old male. After endoscopic ventriculostomy and stereotactic biopsy histopathological examination resulted in the diagnosis of a glioblastoma (WHO grade IV), IDH 1 wildtype (R132), IDH 2