CovidNeuroOnc: a UK multi-centre, prospective cohort study of the impact of the COVID-19 pandemic on the neuro-oncology service

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BACKGROUND

Cancer Research UK documented a 60% reduction in cancer surgery due to COVID-19. Delaying surgical treatment of a brain tumour can lead to irreversible neurological impairment and be rapidly life-threatening because of the risk of raised intracranial pressure and coma

AIM

Primary objective:

To determine whether the COVID-19 pandemic changed the management decision in patients with newly-diagnosed or recurrent brain tumors

Secondary objectives:

- Determine the use of best supportive care
- Determine the use of oncology treatment in glioma without histology diagnosis
- Determine the use of surgery at initial diagnosis or recurrence
- Determine the use of radiotherapy at initial diagnosis or recurrence
- Determine the use of radiosurgery for metastasis
- Determine the use of chemotherapy at initial diagnosis or recurrence
- Determine the overall survival of treated and untreated high-grade glioma

METHOD

Study design:

CovidNeuroOncis a national, multi-centre, prospective observational study in the UK. We invited all adult neurosurgical units in the UK to collaborate on this study and 15 of 32 participated. De-identified data were collected using a secure, online data collection tool (www.castoredc.com)

Study period:

The study will be open from 1 April 2020 until 30 June 2020 (3 months). All participating sites should collect data throughout this period. Patient management should be tracked along the clinical pathway to ensure complete data capture is possible

Eligibility criteria:

Newly-diagnosed adult from weekly neuro-oncology and skull base MDT meetings (>16 years) brain tumour based on CT/MRI that radiologically is low- or high-grade glioma, primary CNS lymphoma, meningioma, vestibular schwannoma, or metastases

RESULTS

- There were 1357 referrals for newly diagnosed or recurrent intracranial tumors across fifteen neuro-oncology centres.
- Of centres with all intracranial tumors, a change in initial MDT management was reported in 8.6% of cases (n=104/1210). Decisions to change the MDT management plan reduced over time from a peak of 19% referrals at the start of the study to 0% by the end of the study period.
- Changes in management were reported in 16% (n=75/466) of cases previously recommended for surgery and 28% of cases previously recommended for chemotherapy (n=20/72).
- The reported SARS-CoV-2 infection rate was similar in surgical and non-surgical patients (2.6% vs. 2.4%, p >0.9).

LIMITATIONS

- Patients had a minimum of only 30-days of follow up and it is likely that some patients may have gone on to have surgery outside of this follow-up window and are not captured in our analysis to date. These follow-up limitations are even more apparent when capturing the data of patients who did or did not receive chemotherapy or radiotherapy.
- Data on the provision of chemotherapy and radiotherapy may have been impaired by the inability to collect data for patients treated outside of their tertiary neuro-oncology centre

CONCLUSION

- Disruption to neuro-oncology services in the UK caused by the COVID-19 pandemic was most marked in the first month, affecting all diagnoses.
- Patients considered for chemotherapy due to a malignant tumour were most affected, in particular, patients with recurrent high-grade glioma
- In those recommended surgical treatment, this was successfully completed in line with the published national guidance.
- Longer-term outcome data will evaluate oncological treatments received by these patients and overall survival.

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