Imaging patterns in patients with newly diagnosed glioblastoma in England

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EDITORIAL

The study by Dumba and colleagues [1] explored the incidence and timing of various peridiagnostic neuroimaging techniques such as MRI, CT, and PET in patients with newly diagnosed glioblastoma using a national database. Particularly, preoperative, early postoperative, and pre-radiotherapy imaging patterns for all glioblastoma patients aged 15-99 years resident in England in the years 2013 and 2014 were retrospectively evaluated.

The entire cohort for data analysis comprised 4,307 patients. The main finding of the study is that prediagnostic imaging appears uniform, whereas postdiagnostic imaging practice varied considerably. Of note, the authors observed that there is clear evidence for low use of early postoperative MRI, the low use of additional MR imaging before radiotherapy, and the very limited use of other neuroimaging techniques such as advanced MRI and PET. For example, in the group of patients who underwent surgery and chemoradiation, only 51% had an early postoperative MRI within 72 h after surgery. In patients undergoing surgery who subsequently received radiotherapy, only 61% had both an early postoperative and a pre-radiotherapy MRI. To improve the diagnostic performance, only 7% of the cohort underwent one or more of the advanced MRI options (i.e., perfusion-weighted MRI, proton MR spectroscopy), and less than 1% of the cohort had additional PET imaging with various tracers (e.g., radiolabeled amino acids, [^{18}F]-2-fluoro-2-deoxy-D-glucose) during the course of disease.

As stated by the authors, reasons for these low rates are still unclear and raises significant questions about national patterns of neuroimaging practice in brain tumor patients. One might speculate that these lower imaging rates are assoiciated with the observation that England has substantially fewer radiologists and MRI scanners than comparable countries

[2,3], or the observational period from 2013 to 2014 is too far in the past to derive meaningful conclusions for the current imaging routine in England. Nevertheless, the present data evaluation may form the basis of further research, e.g., an updated analysis of more recent data.

Recently, an international survey was conducted on behalf of the Brain Tumor Group of European Organization for Research and Treatment of Cancer (EORTC) to evaluate the use of neuroimaging techniques in glioma patients [4]. Among the 77 responding brain tumor centers, 74% routinely performed advanced MRI, and 32% PET imaging in addition to structural MRI. Moreover, almost 75% performed early postoperative MRI within 72 hours after surgery. These differences compared to the work of Dumba and colleagues can most likely be explained by a more recent time of survey conducted in 2021, which was carried out in specialized brain tumor centers.

Overall, the present study provides important insights on the patterns used for clinical imaging of glioblastoma patents within the national health system of England. The use of a standardized, national database allows answering important neuro-oncology questions, including questions related to neuroimaging in glioblastoma patients (e.g., timing, incidences, used modalities, etc.). Thus, these important data are highly valuable to identify strengths and weaknesses in the healthcare system and advise decision-makers on steps that can be taken to improve the clinical routine. Furthermore, the results of the study are useful also for comparison of clinical practices across health systems for different countries. To obtain this goal, further national cohort studies from other countries are warranted.

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