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The World Health Organization Classification of Tumors of the Central Nervous System, Fifth Edition, 2021: A Critical Analysis

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Abstract

In 2021 the World Health Organization issued the fifth edition of its classification of the tumors of the central nervous system. This revision made many significant changes in the overall structure of the tumor taxonomy, as well as utilizing to a greatly increased reliance on molecular genetic data to specify the various diagnoses described in the classification, and to add some new tumor types. This represents a trend following the pioneering introduction of certain required genetic alterations for particular diagnoses encoded in the 2016 revision of the preceding fourth edition. In this chapter I describe the major changes and comment on their significance, and highlight some areas which are, at least to me, controversial. The major tumor categories discussed include gliomas, ependymomas, and embryonal tumors, but all tumor types included in the classification are addressed to the extent necessary.

Keywords: Embryonal tumors; Glioblastoma; Gliomas; Medulloblastoma; Molecular genetic pathology; WHO classification of CNS tumors.

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