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World Health Organization Classification of Central Nervous System Tumors

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ABSTRACT

The fifth edition of the World Health Organization classification of central nervous system tumors (WHO CNS5) now integrates molecular alterations along with histopathology, emphasizing the crucial role of genetic testing for precise and accurate diagnoses.This development poses significant challenges, particularly in economically disadvantaged countries. ADAPTR group will focus on utilizing histopathology supplemented by basic and surrogate IHC markers.

Keywords: World Health Organization, central nervous system tumors, classification

Dünya Sağlık Örgütü'nün Merkezi Sinir Sistemi Tümörleri Sınıflandırması

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ÖZET

Dünya Sağlık Örgütü'nün merkezi sinir sistemi tümörleri sınıflandırmasının 5. baskısı moleküler değişiklikleri histopatoloji ile birleştirerek doğru ve kesin tanılar için genetik testlerin kritik rolünü vurgulamaktadır. Bu durum özellikle ekonomik olarak dezavatajlı ülkelerde zorluklara yol açmaktadır. ADAPTR grubu bu ülkeler için temel histolojik ve immünohistokimyasal belirteçlerle tanının konulabileceğini önermektedir.

Anahtar Kelimeler: Dünya Sağlık Örgütü, merkezi sinir sistemi, tümör, sınıflandırma

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Introduction

The objective of the WHO Classification of Tumors (WHO Blue books) is to provide a uniform nomenclature of human cancers that is accepted and used worldwide. A standardized classification is necessary for pathologists, clinical oncologists and cancer registries. It forms a basis for collecting histologically and genetically stratified and population-base incidence rates and is aprerequisire for comparing cancer therapy trials conducted in different centres and countries.[1]

The fifth edition of the World Health Organization classification of central nervous system tumors (WHO CNS5) now integrates molecular alterations along with histopathology, emphasizing the crucial role of genetic testing for precise and accurate diagnoses. Molecular characteristics identified through next-generation sequencing (NGS) and DNA methylation profiling have become essential diagnostic criteria for certain CNS tumors.[2]

This development poses significant challenges, particularly in economically disadvantaged countries, such as low-income and lower middle-income countries (LICs and LMICs). Following the release of WHO CNS5 in December 2021, the Executive Committee of the Asian Oceanian Society of Neuropathology (AOSNP) recognized an urgent need to facilitate WHO diagnoses in settings lacking access to molecular testing. To address this, they launched the Asian Oceanian Society of Neuropathology committee for Adapting Diagnostic Approaches for Practical Taxonomy in Resource-Restrained Regions (AOSNP-ADAPTR). This initiative aims to provide a simplified approach for achieving diagnoses in line with WHO CNS5 using relatively basic diagnostic tools, particularly for pathologists in resource-limited regions. The limitation of in-local access to various diagnostic techniques was most significantly noted in LMICs in which many Asian Oceanian countries, the forthcoming recommendations from the ADAPTR group will focus on utilizing histopathology supplemented by basic and surrogate IHC markers. Simpler molecular techniques like FISH and Sanger sequencing will be recommended when necessary for diagnosis.

References

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