New CNS tumours in WHO Classification. Comments to the article "The New World Health Organization Classification of Central Nervous System Tumours: What Can the Neuroradiologist Really Say?"

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In May 2012 American Journal of Neuroradiology (AJNR) published an article evaluating influence of changes in the new WHO's classification regarding CNS tumours on the everyday performance of radiologists. Up-date of the classification was announced in 2007 however, the evaluation of its influence on everyday work was possible a few years later. The reason for that was the fact that the information about new pathology units has been made avialable in literature not a long time ago. The frequency of newly classified tumours is not very high (and as a result, it is difficult to come accross them in everyday work). What is more, any change of this type needs time to become valid. Only after a period of time, it was possibile to define difficulties and limitations caused by the up-date and propose new ways of dealing with them.

In 2007 to the list of gliomas new positions were added: *angiocentric glioma*, *pilomyxoid astrocytoma (PMA*), *atypical choriod plexus papilloma (aCPP*). Additionally, there have also been some changes in the names and theory of etiology/histology of pituicytoma introduced. This tumour is not a new unit but it has been classified in other than glioma group – in the group of tumors of the sellar region. The changes also pertain *neuronal and mixed neuronal-glial tumours*. There have been two tumours of the fourth ventricle added – *papillary glioneuronal tumor (PGNT*), *rosette-forming glioneuronal tumour of the fourth ventricle (RGNT*) and an extraventricular variant of central neurocytoma – *extraventricular neurocytoma (EVNCT*). New tumours of pineal region: *papillary tumor of the pineal region (PTPR)* and a *pineal parenchymal tumour of intermediate differentiation (PPTID*). In the group of *embryonal tumours* two variants of medulloblastomas appeared – *medulloblastoma with extensive nodularity and anaplastic medulloblastoma*. Pituicytoma has been described/classified as an astrocytic tumor which originates from pituicytes of posterior pituitary or stalk (*posterior pituitary astrocytoma or infundibuloma*). Additionally, *spindle cell oncocytoma (SCO*) has been described; these units were added to the group of tumors of the sellar region.

The authors emphasize very low frequency of new tumours in everyday work which results in the lack of possibilities to define the exact and final diagnostic criteria. In some cases of new tumours (obviously it is not a new hint), it is helpful to connect location of the tumour with the age and symptoms, for example: cortical lesion with T1 hyperintense rim in the frontal lobe and a young patient with epilepsy in case of the angiocentric glioma. Some of the tumours are identical with other disease units appearing more frequently (e.g.PGNT *vs.* ganglioglioma). The recognition depends only on histopathologists (the same as EVNCT). Some other recognitions, according to the authors, should be reported as the units in differential diagnosis or should be identified/differentiated on the basis of elimination (taking into consideration the possibility of the primary tumour in case of suspicion of metastasis or symptoms such as diabetes insipidus in case of differentiating between pituicytoma and adenoma.

In the sum-up the authors provide the following hints:
- in case of aggresively looking pineal tumours in the middle-aged patient, PPTID should be considered,
- young or middle-aged patient with anomalous lesion in the fourth ventricle suggests RGNT,
- hypothalamus tumour in case of an infant especially with bleeding can suggest PMA,
- a posterior fossa lesion in children with avidly enchancing grapelike nodules could be a medulloblastoma with extensive nodularity, especially when occurs off-midline.

Radiology tries to visualise and differentiate CNS tumours in order to obtain results which will be close to those of *ex vivo* histopathological methods. As a result, it should optimize and influence the treatment. However, due to the limitations, which diagnostic imaging cannot – for the moment being – eliminate, some difficulties and lack of unambiguous recognition regarding some of new tumours may appear.

The authors of the AJNR article are Americans. Athough the system of subspecializations in the USA is rather new (the first exam session regarding first of them – neuroradiology took place 11 years ago), the structure of radiology departments in large medical centers with the sections of musculo-skeletal, chest or neuroradiology function quite long. Earlier than the doctors were trying to obtain certificates of additional qualifications [1]. What is more, the cooperation between neurosurgeon, oncologist, radiotherapist and radiologist is really close. Such a situation results in very high standards. In Poland, only in some places, there are departments of neuroradiology however, informal subspecialization of radiologists is not so visible and in most of the cases radiologists deal with general radiology.

It seems that due to these reasons, it is more difficult to acccept and implement new settlements resulting from WHO 2007 classification. In other EU countries subspecializations function however, the system in Poland also evaluates and can bring similar changes.

WHO's classification of CNS tumours dated 2007 can be found on the Internet in a free of charge electronic version of Acta Neuropathologica [2].

Characteristics and illustration materials regarding new tumours are available in original version of the article (free full-text, issue from May 2012) on *www.ajnr.org* [3].

References:

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