

CT and MR of neurocritical patient: diagnostic and prognostic value.

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All CNS lesions are relevant, however some of them, due to their nature, extension and/or form of presentation, require the vigilance, control and management from part of specially trained medical and nursing personnel, in order to foresee, identify or react to all critical situations that may provoke a permanent brain damage.

Many CNS pathological processes require the assistance and benefit of Neurological Intensive Care Units (NICUs) either from the beginning, or during the pathological course, or as a consequence of the performed therapies. Among them we would like to mention the stroke, the severe cranio-encephalic traumas and the anoxic encephalopathy secondary to cardiorespiratory failure.

The NICUs utilize several monitoring devices to control and record the events that may lead to an irreversible neurological damage, such as the recording of the intracranial pressure (IPC), the evaluation of the cerebral blood flow (Intracranial Doppler) in order to recognize the vascular spasm or obstruction, the EEG monitoring of the cerebral activity, the hemodynamic arterial and venous control, and the recording of the somatosensory, motor or auditory evoked potentials. These are some of the present techniques that may be used to maintain a close and effective control of the vital parameters, as well as of the brain parenchyma functions.

The advanced neuroradiological examinations, e.g. CT and MR, when applied with the objective to reach a profound evaluation of the structural and functional alterations of the CNS, constitute an important part in the activity of the NICUs, either as to the comprehension and management of these patients when a life-threatening event related to a neurological cause occurs, or in order to define a short- or middle-term prognosis with a high degree of sensitivity and specificity, or to foresee the degree of neurological impairment that these lesions may provoke.

We present a review of the impact of the CT and MR studies in the management of these patients, either in the diagnostic or the prognostic phase.