Stroke or not? Stroke mimics and chameleons: uncommon presentations of a common disorder

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Abstract

Background: Up to 30% of suspected stroke presentations will subsequently have a different diagnosis. Two scenarios must be considered: a false positive "mimic", and a false negative "chameleon". Also, contemporary brain imaging techniques induce a greater risk of finding "incidentalomas". The objective of this review is identifying and describing the most frequent clinical situations in which these scenarios are encountered.
Material and methods: The relevant terms combination [chameleon OR mimic OR incidentaloma] AND stroke were searched on PubMed database. The following filters were applied: publication date – 5 years, species – humans, age of subjects – 18+, language – English. 320 results were identified, from which only Meta-analyses (1), Reviews (20) and Systematic Reviews (4) were analyzed (total – 25 papers).
Results: Stroke can have an unusual presentation and can often not be immediately recognized. Stroke mimics account for up to 25% of admissions for probable strokes, most commonly described including seizures, migrainous aura, venous thrombosis, posterior reversible encephalopathy syndrome and neoplasms. The commonest identified chameleons were: altered mental status, syncope, hypertensive emergency, systemic infection and suspected acute coronary syndrome. The increased use of MRI also leads to incidental findings in suspected stroke patients, such as: meningiomas, cavernomas, and aneurys.
Conclusions: Having unusual presentations, stroke can often not be immediately recognized. The problem with chameleons is more serious than with mimics, because patients are not identified in time, and are not properly treated. Physicians should consider the above-mentioned diagnoses for subsequent appropriate management.
Key words: chameleon, mimic, incidentaloma, stroke.

Neuroimaging in patients with epilepsy

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Abstract

Background: Recent advances in neuroimaging have significantly changed the clinical approach to patients with epilepsy. Structural neuroimaging may be able to identify prognostic features in patients more likely to respond to antiepileptic drug treatment. The aim of the study was to assess the role of neuroimaging techniques in the diagnosis of patients with epilepsy.
Material and methods: 352 patients with epilepsy, from the National Center for Epilepsy were evaluated by cerebral CT, 1.5 – 3 Tesla MRI and protocol epilepsy MRI.
Results: In our study, only 22.2% of the patients, benefited from high-performance neuroimaging by using epilepsy protocol according to international recommendations. CT and low-resolution MRI (below 1.5 Tesla) are able to identify only extended cerebral lesions, like posttraumatic and ischemic gliosis (in 52.5%), arteriovenous malformation. Instead, highly epileptogenic lesions, like cerebral cortical malformations and hippocampal sclerosis were mainly identified by using 3 Tesla MRI with or without epilepsy protocol (5.9% vs 12.7). 64.8% of all patients with epilepsy had structural etiology, but 15.6% still remained with unknown etiology and poor responsiveness to antiseizure medication.
Conclusions: MRI techniques greater than 1.5 Tesla remains the gold standard in epilepsy neuroimaging and is crucial in detection of highly epileptogenic lesions and individualized treatment.
Key words: neuroimaging, epilepsy, MRI.