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Imaging in Parkinson's disease

Editor – We are grateful to Pagano *et al* for their compelling review of imaging in Parkinson's disease.[1] The accurate and timely diagnosis of Parkinsonian syndromes is of upmost importance for patients, carers and physicians to allow appropriate treatment, multidisciplinary intervention and precise prognostication. It was unfortunate, however, to find no mention of analysis of the nigrosome complexes on susceptibility-weighted imaging. Damier *et al* described patterns of dopamine-containing neuron loss in five compartments within the substantia nigra, the main of which is nigrosome-1.[2] Maximal cell loss occurs in nigrosome-1 and has been identified as a pathoanatomical correlate of idiopathic Parkinson's disease pathology on susceptibility-weighted 3T magnetic resonance imaging.

Several studies have now demonstrated a high sensitivity and specificity in the diagnosis of idiopathic Parkinson's disease.[3,4] Furthermore, in our experience the analysis of the nigrosome-1 complex on 3.0T susceptibility-weighted imaging sequences instead of DaTSCAN for supplementing clinical diagnosis of tremor-predominant idiopathic Parkinson's disease from essential tremor is of equivalent utility. Its use beyond this indication is still under investigation.

Most centres can now more readily access a 3.0T magnetic resonance imaging scanner than molecular imaging such as DaTSCAN and avoids the risks associated with ionising radiation. Although more evidence is required to establish the full role of susceptibility-weighted imaging in Parkinsonian syndromes, it looks promising as another tool in the diagnostic arsenal of physicians to complement clinical diagnosis. ■

Conflicts of interest

The authors have no conflicts of interest to declare.

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A choroid plexus papilloma manifesting as anorexia nervosa in an adult

The lesson of the month by Singh *et al*, detailing the 18-month diagnostic journey of a patient with a choroid plexus papilloma, is a stark example of diagnostic error attributable in part to the cognitive bias known as 'psych-out error'.[1]

Most diagnostic errors are made in 'intuitive thinking' mode, while using mental shortcuts ('heuristics' or 'biases'). There are currently over 100 cognitive biases described. Some common cognitive biases involved in medical diagnostic error include:[2]

- anchoring – the tendency to focus on salient features in your patient's initial presentation too early in the diagnostic process and failure to reconsider the diagnosis in light of later information
- confirmation bias – the tendency to look for evidence to confirm your diagnosis rather than for evidence to disprove it
- diagnosis momentum – once diagnostic labels are attached to patients, they tend to remain and gather increasing momentum with time, without any additional supporting evidence
- fundamental attribution error – the tendency to be judgemental and blame patients for their illnesses based on their personal circumstances
- psych-out error – patients with mental illness often have comorbid medical conditions overlooked; making a misdiagnosis of mental illness rather than a causative underlying physical condition is a variant of this bias.

The patient in this case[1] seems to have been a victim of a perfect storm of anchoring, fundamental attribution error, confirmation bias, diagnosis momentum and psych-out error – all of which conspired to delay her eventual diagnosis of choroid plexus papilloma. The exhortation to exclude organic causes prior to attributing symptoms to mental illness is an example of a cognitive de-biasing strategy against psych-out error, and other similar strategies exist for the numerous biases involved in diagnostic error.[3] ■

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