Clinical reasoning in neurology: the 'five finger rule'

Tom Cardy

Clinical reasoning is the process of collecting and analysing information on a patient's history, creating a problem list, and constructing an accurate and prioritized list of differential diagnoses in order to allow rational decisions to be made in the formulation of a diagnostic and treatment plan. Clinical reasoning is recognized to be a fundamental skill for veterinary practitioners, regardless of their skill level or area of expertise. However, effective clinical reasoning can be extremely challenging to adopt and use in daily practice.

Neurology cases are a common presentation for veterinary surgeons but can frequently seem overwhelming. Many patients initially seem to have similar case histories, similar clinical signs and a similar neuroanatomical localization, making attempts at clinical reasoning feel like a lost cause. Studies in canine and feline spinal disease and epilepsy have shown that by systematically considering pertinent variables from the signalment, history and presentation, as well as the neurological examination findings, it is possible to develop simple algorithms that can be incorporated into clinical decision making on a daily basis. These algorithms have been statistically shown to produce a more refined and accurate list of differential diagnoses, ultimately leading to improved standards of patient care.

KEY LEARNING OBJECTIVES

- Be able to differentiate between approaches to diagnosis, including: pattern-recognition, 'fishing', and problem-based clinical reasoning and understand the rationale for an evidence-based approach to clinical reasoning
- Understand how the 'five finger rule' considers elements from the patient signalment, onset, progression, lateralization and pain of the presenting condition to improve clinical reasoning

- Recognize how clinical reasoning can be used to improve diagnosis and treatment of small animal neurology cases

MULTIPLE CHOICE QUESTIONS

1. How is clinical reasoning defined?
 - (A) Using information from a patient's history and physical examination to determine a likely diagnosis and make rational decisions on the treatment of that patient
 - (B) The process of collecting and analysing information on a patient's history and physical examination to create a problem list and construct an accurate and prioritized list of differential diagnoses in order to allow rational decisions to be made on the treatment of that patient
 - (C) The process of magnetic resonance imaging (MRI) scanning the patient to identify a lesion and best determine treatment options for that patient
 - (D) The process of performing a series of blood tests and imaging studies in order to determine the likely diagnosis for that patient
2. Which of the following variables from the history and clinical examination does the 'five finger rule' take into account to improve clinical decision making?
 - (A) Weight, age, lateralization, pain, neuroanatomical localization
 - (B) Onset, progression, lateralization, pain, neuroanatomical localization
 - (C) Onset, progression, lateralization, pain, lesion location on MRI
 - (D) Age, progression, lateralization, pain, neuroanatomical localization
3. What is the most likely diagnosis in a 3-year-old, medium-sized crossbreed dog with a peracute onset, rapidly improving, left lateralized and non-painful T3–L3 myelopathy?
 - (A) Intervertebral disc protrusion
 - (B) Intervertebral disc extrusion
 - (C) Fibrocartilagenous embolism
 - (D) Neoplasm

Neuromislocalization: when our examination confounds us

Patrick Kenny

Some animals may have true neurological abnormalities that can be normal for that individual and irrelevant and

distract from the real clinical problem. An accurate history is important to determine whether neurological abnormalities found on examination may be the residual deficits from a previous or pre-existing neurological problem (either known or suspected). Geriatric dogs may have a high-frequency tremor of the pelvic limbs while standing; these are clinically benign and do not require treatment. Older dogs (>10 years), that are otherwise clinically and neurologically normal, commonly have decreased patellar reflexes either unilaterally or bilaterally. Convergent strabismus and pendular nystagmus are a 'normal' finding in certain oriental breeds of cat such as the Siamese, Himalayan and Birman.

Guest (guest)

IP: 3.80.181.102