Nursing the seizure patient

Charlene Mallott

The role of the registered veterinary nurse in the care and management of patients suffering with seizures is important. For a veterinary nurse to be able to provide the best possible care, prompt and accurate recognition of the seizure and the different presentations is essential.

Seizures can present as generalized or focal. Generalized seizures typically present as tonic/clonic manifesting as loss of consciousness, hypertonia, collapse and jerking of limbs, but can also be clonic, myoclonic, atonic or absence. Focal seizures commonly manifest as facial twitching or a behavioural disorder such as vacancy, fly catching or unusual aggression. During a seizure, loss of bladder or bowel control may occur and breathing may be compromised causing cyanosis.

Seizures can be self-limiting, such as an isolated event. Cluster seizures is classified as two or more seizures in 24 hours. Reflex seizure is caused by a recognized stimulant, toxic or metabolic insult. Status epilepticus (SE) is continuous seizure activity or failure to return to normality between seizures.

Emergency treatment must be administered to a seizing patient and to assist with this a patent intravenous catheter is recommended. Initial administration of anticonvulsants, typically benzodiazepines (or levetiracetam in some cases, such as liver pathology) aims to stop seizure activity and allow stabilization of the patient's vital parameters.

Monitoring of heart rate, respiratory rate and effort, blood pressure and temperature is vital and, if necessary, the modified Glasgow coma score must be obtained and monitored for improvement or deterioration in a severe SE or comatose patient.

Investigation of the underlying cause of the seizure(s) can commence once the clinician in charge feels the patient is stable enough. A thorough neurological assessment will take place, followed by blood tests, with possible magnetic resonance imaging, electroencephalograph and spinal fluid analysis.

There are many conditions that cause seizures but the most commonly seen conditions are idiopathic epilepsy, inflammatory processes such as infectious or immune-mediated diseases, toxic or metabolic insult, neoplasia, trauma or anatomical abnormality.

Education and advice can be given to owners to assist in patient care at home and offer reassurance. It is helpful to clarify with owners doses of any anti-epileptic drugs (AED) and to provide directions for rectal diazepam should this be prescribed. Owners should be made aware of potential side effects of prescribed medication. It is good practice to advise the owner to keep a written diary of any seizure activity the patient has at home to help keep a clear history.

KEY LEARNING OBJECTIVES

- Recognize the different types of seizures
- Understand the importance of recognizing a seizure and the emergency treatment that should be initiated
- Understand nursing considerations when caring for a patient with seizures

MULTIPLE CHOICE QUESTIONS

1. Which of the following is NOT a typical presentation of a generalized seizure?
(A) Fly catching
(B) Collapse
(C) Hypertonia
(D) Loss of bladder control
2. Which of the following is advised to assist with emergency treatment of a patient having a seizure?
(A) Endotracheal tube placement
(B) Intravenous catheter placement
(C) Indwelling urinary catheter placement
(D) Phlebotomy for blood tests
3. Which of these is NOT a commonly seen side effect of AED?
(A) Polydipsia (C) Alopecia
(B) Polyphagia (D) Ataxia

Nursing the vestibular patient

Charlene Mallott

Vestibular patients can present in a number of different ways and in some cases it can be difficult to distinguish a vestibular episode from that of a seizure. It greatly benefits the registered veterinary nurse to be able to

recognize a vestibular episode to allow better suited nursing care. Patients suffering from vestibular syndrome can present with one or all of the following symptoms:

- Head tilt
- Nystagmus
- Strabismus
- Ataxia
- Circling or falling to one side
- Wide-based stance
- Severe cases of vestibular disease can result in a patient 'crocodile rolling' in one continuous direction due to severe imbalance.

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Unlike a seizure episode the patient is conscious and responsive throughout.

The vestibular system is comprised of two parts, the peripheral vestibular system, composed of the inner ear and nerves outside of the brain, and the central vestibular system, the vestibular nuclei and its connections to the brain and spinal cord. Balance, head stabilization, posture and movement are all controlled by the vestibular system, providing the brain with information in order to maintain motor function and allow coordination.

A thorough neurological examination including a patient history is necessary in order to determine the location of lesion or abnormality in the vestibular system. This will also help to determine if the patient is suffering from a peripheral or central vestibular disease. Suspected peripheral cases should undergo a thorough otoscopic examination. Computed tomography or magnetic resonance imaging can help diagnose both peripheral and central vestibular conditions, and cerebrospinal fluid analysis can assist in diagnosis of inflammatory central nervous system disease.

Common conditions that are responsible for both central and peripheral vestibular signs include:

- Neoplasia
- Toxicity
- Inflammatory diseases
- Idiopathic
- Cerebrovascular strokes can cause central vestibular signs.

Nursing these patients requires careful consideration of symptoms, and the level of care needed depends greatly on the severity of the condition. Patients can often be recumbent, so recumbency care is vital. Turning the patient at least every 4 hours is important but can be tricky as balance is compromised leading to confusion and distress in the patient. It is important to use absorbent bedding such as Vetbeds if the patient is unable to go outside to toilet. Indwelling urinary catheters should be placed in recumbent patients to avoid urine scalding. Padding the sides of a kennel can help avoid injury in

patients that are crocodile rolling. Assistance in walking may be necessary with the use of a harness and sling. It is vital when administering nursing care and treatment to vestibular patients that reassurance is offered continuously and movements are performed slowly as they can become very distressed and panic, potentially causing more harm than good.

KEY LEARNING OBJECTIVES

- Have a good knowledge of the presentation and types of symptoms of a vestibular patient
- Understand the difference between a vestibular episode and seizure activity
- Appreciate the nursing considerations involved when looking after a vestibular patient

MULTIPLE CHOICE QUESTIONS

1. Which of the following is NOT a symptom of vestibular disease?
 - (A) Ataxia
 - (B) Head tilt
 - (C) Loss of consciousness
 - (D) Nausea
2. How often should a recumbent patient be turned?
 - (A) At least every 2–4 hours
 - (B) At least every 6 hours
 - (C) At least twice a day
 - (D) When other treatment is due
3. What is it important to do when moving vestibular patients?
 - (A) Move them quickly to minimize stress
 - (B) Avoid moving them as much as possible
 - (C) Always use a muzzle in case they bite
 - (D) Talk calmly to them and offer constant reassurance

Bladder management in the neurological patient

Charlene Mallott

Registered veterinary nurses must be able to recognize when a patient is not passing urine appropriately in order to feed this information back to the veterinary surgeon and to be able to offer the best care possible to patients.

The bladder wall is made up of a smooth muscle called the detrusor muscle which is innervated by a parasympathetic nerve, the pelvic nerve, which helps the bladder to contract for urination. The sympathetic hypogastric

nerve functions to relax the bladder wall and allow it to fill up and the pudendal nerve controls the external urethral sphincter. Damage or injury, such as a thoracolumbar lesion, pelvic fracture or tail-pull injury, can damage the nerves innervating the bladder and cause problems with urination and inability for the patient to empty the bladder.

Damage to the thoracolumbar spine can cause an upper motor neuron bladder, causing retention of urine despite a full bladder, due to contraction of the bladder wall and spasm of the external sphincter. This can make even manual expression difficult. Damage to the pelvis or a tail-pull injury are common causes for a lower motor neuron bladder. This causes both the bladder wall and external sphincter to be flaccid, resulting in leakage of urine. The bladder can be difficult to express manually as it can be stretched whilst the internal sphincter retains tone. When nursing these patients it is important to monitor bladder size regardless of any urine passed. Overflow