



Small Animal Internal Medicine 2

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Chief Complaint

Nanuk is a 9 year old female spayed Akita with a chief complaint of weakness during exercise and also periodic bout of regurgitating her food.

Nanuk



History

- Regurgitating food for the past 3 weeks
- Voice change
- Exercise - related weakness
- Seems to be getting weaker
- Sometimes sleeps with her eyes open

Physical Examination

- . Bright and Alert
- . Excessive drooling, many attempts at swallowing
- . Temperature 38.0 degrees C
- . Heart rate 150 bpm
- . Respiratory rate 15 per minute
- . Very weak palpebral reflex
- . Poor gag reflex

Problem List

- Regurgitation
- Voice change
- Exercise – related weakness
- Excessive drooling, many attempts at swallowing
- Weak palpebral reflex
- Poor gag reflex

Rule Outs

- List all the Possible Diagnoses
- *This list is your Rule Out list*

Rule Outs

- Tick paralysis
- Botulism
- Myasthenia Gravis
- Polyneuropathy – hypothyroidism
- Rabies

Plan

- CBC. Blood chemistry. Complete urinalysis
- Thoracic radiographs - left lateral and V/D
- Serum AChR (acetylcholine receptor) antibody titre
- Tensilon Test – injection of edrophonium chloride

Radiographs

- Thoracic left lateral view and V/D

Radiograph left lateral



Radiograph Evaluation

- List all the abnormal radiographic signs you see in the previous radiograph.

Radiographic lesion

- The esophagus is dilated – megaesophagus
- See the next slide

Megaesophagus



Findings

- CBC, Chemistry and U/A all normal
- Serum AChR (acetylcholine receptor) antibody titre positive for the presence of antibodies against AChR (Acetylcholine Receptors)

Tensilon Test (edrophonium chloride test)

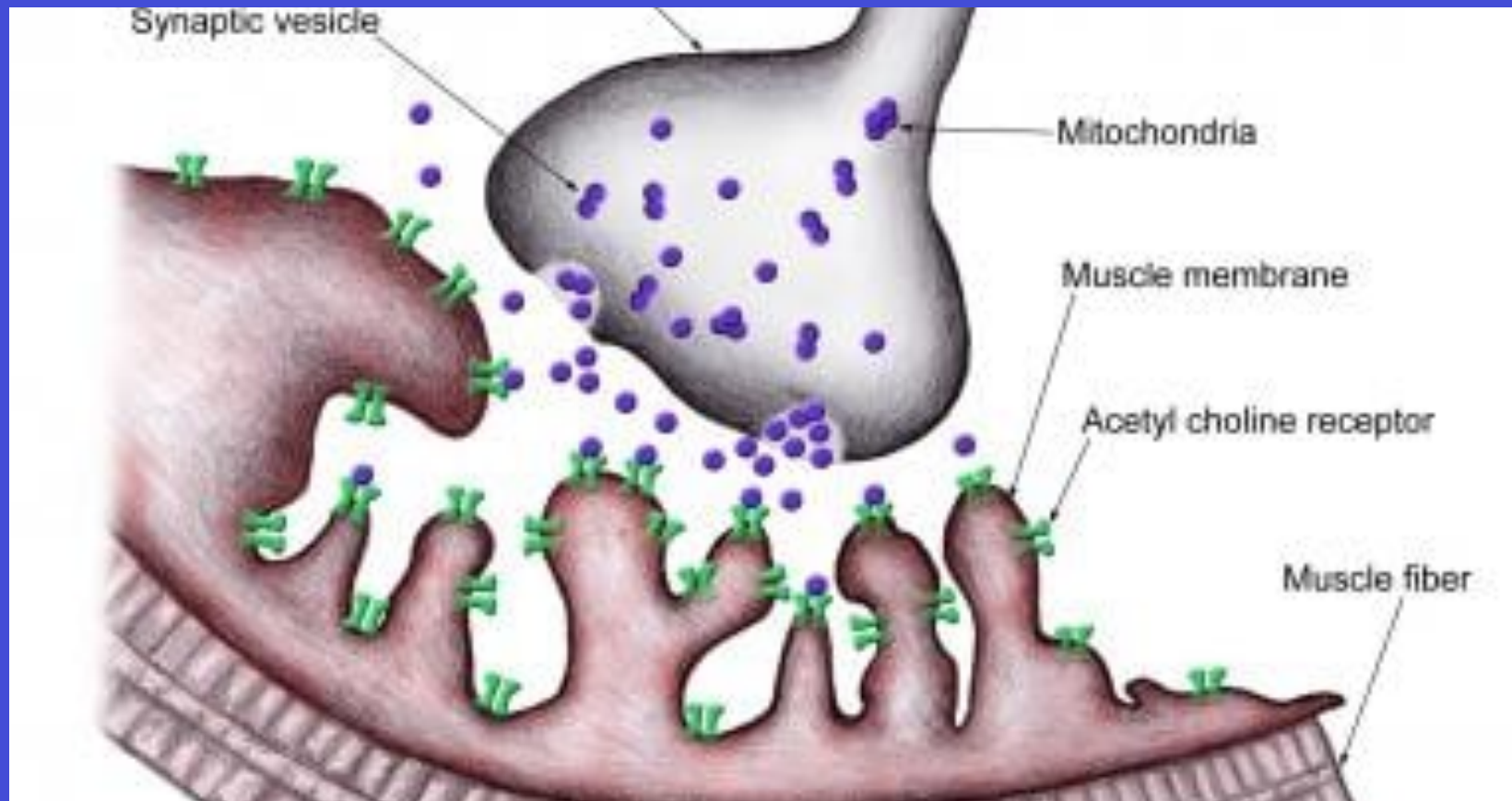


Acetylcholine Receptors

- What are acetylcholine receptors responsible for?

In the peripheral nervous system: (1) they transmit outgoing signals from the presynaptic to the postsynaptic cells within the sympathetic and parasympathetic nervous system, and (2) they are the receptors found on skeletal muscle that receive acetylcholine released **to signal for muscular contraction.**

Neuromuscular Junction



Final Diagnosis

- Summary
- Muscle weakness
- Megaesophagus
- Positive antibody titre to AChR
- Positive Tensilon test (edrophonium chloride)
- What is your diagnosis?

Final Diagnosis

- Myasthenia Gravis

Treatment Plan

- Support Care
- Oxygen
- Antibiotics
- Feeding tubes
- Anticholinesterase drugs – Mestinon (Pyridostigmine) syrup – prolongs the action of acetylcholine at the neuromuscular junction
- Corticosteroids

Prognosis

- Good prognosis if there is no aspiration pneumonia
- Complete recovery 6-8 months

The End







































