ANNPE

Plus

Physical Rehabilitation

Presented by

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Silas

7yr old M/C Schipperke

Family pet

Silas's Story

June 10th

Sudden episode of flaccid paralysis, stiffening, and jaw lock after eating a treat

Originally diagnosed with a suspected disc herniation at the C3-C4 intervertebral and spinal cord edema by MRI

Given Prednisone 5mg PO BID, Tramadol 25mg PO BID, and Gabapentin 100mg PO BID

Started physical rehabilitation on June 14th consisting of PROM, TENS, and massage BID for six days

Has made some improvement per owner

Silas's Story Continued

June 22nd

Physical rehabilitation consult at AUCVM

Neurologist at AUCVM diagnosed ANNPE at C3-C4

Given Prednisone 5mg PO SID, Gabapentin 100mg PO SID, and Tramadol 25mg PO SID

Recommended strict cage rest with controlled physical rehabilitation

Patient was non-ambulatory and tetraparetic. He had absent proprioception in the left thoracic and pelvic limbs and delayed proprioception in the right thoracic and pelvic limbs. He had mild muscle atrophy over his left shoulder

What is ANNPE?

Acute Non-compressive Nucleus Pulposus Extrusion

A portion of a healthy intervertebral disc suddenly shoots out through its encasement and collides with the spinal cord at a high velocity

Causes bruising of the spinal cord

Not surgical and usually not painful

Initial Rehab Evaluation June 22

Patient is BAR, BCS 6/9, food motivated, tires quickly

Neurologic grading scheme: 1 Unable to stand or support himself, slight movement when supported, severe tetraparesis, non- ambulatory

Pain assessment: 1-2, Patient's neck is painful on palpation and ROM. Owner says it has improved on Gabapentin.

Goals: Stop muscle atrophy and regain muscle mass and ROM. Have patient become ambulatory again.

Plan: Inpatient therapy weekly, go home on the weekends with exercises

Treatment Plan Weeks 1 and 2

Assisted stand for 10 minutes

PROM all limbs x 10

Weight shifts x 10

Assisted walks

Cookie stretch x10

Laser neck (EOD) 7J/cm2

Toe pinch x 10

Massage 10 minutes

Proprioceptive training

Strengthening

Decrease muscle discomfort, and overall pain

Diminish effects of disuse, improve joint mobility

Encourage affected limb use

End of Week 1 Improvements

Silas became ambulatory, tetraparetic, with proprioceptive ataxia

Left thoracic limb worse

Neurologic grading scheme : 3

He can support most of his weight

Falls to the left

Starting to place left thoracic limb correctly

Home Exercise Plan and Week 3

Assisted standing for 5 minutes 3 times a day

Assisted walks at least 3 times a day

Toe pinches 10 times for each limb 2-3 times a day

Weight shifting 10 times 3 times a day

Bicycle movements with pelvic limbs 10 times each 3 times day

PROM with thoracic limbs 10 times each 3 times a day

Massage for 5-10 minutes after exercising

End of Week 3 Improvements

Silas is ambulatory, tetraparetic

Proprioceptive ataxia is very mild and mainly seen in his left thoracic limb

Knuckling and hopping still absent in left thoracic limb

No muscle atrophy noted in left shoulder

Neurologic grading scheme: 3-4

Patient is doing better at catching himself when he starts to fall

Patient is comfortable off all pain medications

Treatment Plan Week 4

Assisted stand and sit stand

PROM left thoracic limb

Weight shift x10

Ramps x2

Cavaletti rails 4 flat inside x10

Weave poles 5 poles x 5

Sand pit

Laser neck EOD 7J/cm2

Massage

Muscle strengthening

Improve coordination

Core strengthening

Improve Balance

Proprioceptive training

Improve active ROM

Ease muscle stiffness and soreness

Increase endurance

Treatment Plan Week 5

Assisted stand

Bow / Limbo x10

Cavaletti rails 4 at 4” inside

Sand pit with 2 flat cavaletti rails

Ramps x6

Balance disk with thoracic limbs on x10

Sit stands x10

Weave poles 5 poles x5

Massage for 10 minutes

Core strengthening

Proprioceptive training

Improve balance

Muscle strengthening

Improve active ROM

Improve flexion and extension of the thoracic limbs

Neurologic Exam at Discharge

Patient is ambulatory, tetraparetic

Proprioceptive ataxia present but greatly improved in his left thoracic limb

Postural reactions knuckling and hoping are improved but decreased in left thoracic limb

Flexor withdrawal and muscle tone is normal in the left thoracic limb

Neurologic grading scheme: 4

Lessons Learned

Take measurements starting the first day

Think outside the box

Each patient is different

Incorporate equipment and exercises that work for the individual patient

Make sure everyone is using patient's protective gear