Nursing care of the Dyspnoeic Cat

Abstract

This lecture focuses on the nursing care of dyspnoeic cats in practice and gives practical advice on the best approach in nursing them. It begins by looking at symptoms of respiratory distress, and then discusses monitoring of the cat and interventions needed as well as the importance of minimising stress. It then discusses respiratory effort and how recognition of the different types of inspiration and expiration and effort involved can give valuable information to the veterinary team as to the cause of the distress. It then also discusses thoracocentesis and thoracic drains.

Learning outcomes

- Confidence in the nursing care and monitoring of dyspnoeic cats
- Knowledge of the different causes of respiratory distress
- Knowledge of thoracocentesis and thoracic drains

Course Notes

**Symptoms of respiratory distress:**

- Often in sternal
- Abducted elbows
- Open Mouth breathing
- May or may not be cyanotic

**Other symptoms:**

- May not be so obvious
- Increased or decreased thoracic wall movement
- Tachypnoeic, Orthopnoea
- Fluid from nose/mouth

**Safety for the patient and you!**

- ANY patient in respiratory distress will benefit from oxygen therapy with the exception of tension pneumothorax
- Pre-Oxygenation before handling should be employed for at least 5 minutes if not longer
- Cats in respiratory distress have used up their oxygen reserves
Monitoring of the cat in respiratory distress

- Monitoring of these patients is essential
- However we often cannot monitor them as closely as we would like due to stress levels
- A lot of information can be gathered from a “hands off” approach
- Watch the respiratory rate and effort

A step by step approach is essential

- Place any dyspnoeic patient in oxygen FIRST for a minimum of 5 minutes
- Monitor respiratory rate and effort and patients mentation /posture
- Analgesia / Muscle Relaxants may or may not be indicated by the Vet +/- Sedation

Other interventions

- Place IV Catheter
- Use a SPO2 probe on ear
- Monitor EFFORT it gives us a lot of information about the location of the respiratory issue
- Further diagnostics are likely to be needed

Localising breathing issues

- This can be done by watching the feline patients respiratory EFFORT
- Recognition of the different types of inspiration and expiration and effort involved can give valuable information
- It can also guide decision making for the Veterinary Surgeon

Laboured Inspiration

- Laboured Inspiration
- Will normally be upper airway problem
- As a test on yourself hold your hand across your throat and apply pressure
- These patients may have laryngeal swelling, oedema, feline asthma, or a physical abnormality, occasionally a foreign body
**Laboured Expiration**
- Normally indicative of a lower airway problem
- Pneumonia
- Pulmonary Oedema
- Pulmonary Contusions
- Parenchymal Disease

**Laboured Inspiration and Expiration**
- Often seen in patients with parenchymal disease
- Lung function is compromised due to a underlying disease process such as pneumonia
- Inspiration with excessive effort trying to get oxygen IN
- Expiration compromised due to increased intra-thoracic pressure

**Rapid Shallow Inspiration and Expiration**
- Pulmonary space disease
- Short, shallow rapid breaths in and out
- Due to poor lung expansion and increased intra-thoracic pressure
- Fluid, Air, Blood or other effusions

**Paradoxical Abdominal Breathing**
- Almost always seen with Diaphragmatic hernias
- As the patient breathes IN the abdomen is sucked inwards
- Normally the abdomen would expand outwards
- This is due to negative pressure being absent in the thoracic cavity

**Pulmonary Contusions**
- Blood accumulates within the lungs
- Often not seen immediately
- RTA patients classically will improve on presentation with analgesia and oxygen therapy
- Then deteriorate 6-8hours later as the blood accumulation becomes critical
Nursing the respiratory patient

- Once a diagnosis has been made there are still many concerns for these patients
- Dyspnoea may improve if underlying cause can be treated

Trauma Patients

- May be dyspnoeic purely due to pain
- They may have damage to the thorax or lung parenchyma
- Unless you can definitively say there is no damage to the thorax or lung parenchyma then close monitoring is absolutely essential

Effusions

- Regardless of the effusion the Veterinary Surgeon and Nurse should be aware that they can rapidly build up again
- An example would be a patient in cardiac failure with a pulmonary effusion or a Pyothorax
- They may require repeated Thoracocentesis or placement of thoracic drains

Monitoring

- Once the patient is stabilised this should include our normal monitoring procedure
- Heart rate, Pulse quality, Resp Rate and Effort, Temperature, CRT and MM Colour
- Additionally it is wise to monitor SPO2 continuously and an ECG q2-4hrs if the patient will tolerate it as well as arterial blood gases if possible

Stress Reduction

- Cats are prone to stress in the hospital environment
- Every effort should be made where possible to keep dyspnoeic patients in a quiet calm area where they can be monitored closely
- Stress will increase a patients respiratory rate alongside other factors

Once diagnostics have been carried out

- Pain associated Dyspnoea responds to analgesia
- Other upper airway dyspnoea responds to interventions such as oxygen/stress reduction
- Or there is a underlying issue which will require on-going monitoring and treatment
Thoracocentesis

- May be an emergency procedure
- Can be carried out in the conscious or sedated patient
- Will allow re-expansion of lungs and therefore re-perfusion and improved oxygenation

Preparation:
- Thoracocentesis carried out between rib 7-9
- A large area should be clipped if tolerated
- A butterfly needle and a 3 way tap is used to drain air/fluid
- Aseptic procedure

Thoracic Drains

- Often placed after repeated Thoracocentesis required
- Almost always indicated in patients with Pyothorax
- Patients with tension pneumothorax
- Excellent nursing care is essential

Advantages:
- Once placed can drain thorax as and when required
- Normally well tolerated with good analgesia and nursing care
- May need to be maintained for long periods of time in the case of a Pyothorax for example

Disadvantages:
- Can be painful if multi-modal analgesia is not used
- Dangerous if clamps, taps damaged or patient interference
- Needs 24hr supervision and monitoring
- Much more invasive

Management:
- Hygiene is incredibly important
- Gloves must be worn when handling tubes
- Patients may exhibit discomfort as lung re-expansion occurs
- Chlorhexidine scrub 0.05% should be used to wipe tubing, three way taps and clamps should be changed every 12-24hrs
Patient Comfort:

- Pain scoring is essential
- You should be able to turn the thoracic tube 360 degrees without resistance
- There should be no kinks or obstructions in the tubing
- Comfortable bedding, quiet environment and continued monitoring is essential

Other concerns

- Nutritional Support
- Hygiene and Cleanliness
- Safe and stress free interaction with patients
- Potential for deterioration at any time with a Dyspnoeic patient until underlying cause treated