Spontaneous Pneumothorax in Two Dogs – A Report

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Abstract

Two dogs aged one and 4 years were reported with the history of severe respiratory distress, retching and lateral recumbency. On physical examination, there was hyperechoic resonance during percussion. Radiographic examination confirmed the cases with elevated cardiac silhouette from sternum and atelectic lung lobes. Thoracocentesis was carried on emergency basis initially at 8th and 11th intercostals space and twice at 12 hour interval. Both dogs recovered clinically from second day onwards. Complete recovery without any recurrence was observed from third day onwards. Spontaneous pneumothorax without any history of trauma in two adult dogs and its successful medical management is reported.

Key words: Dog, Dyspnea, Pneumothorax, Thoracocentesis.

Spontaneous pneumothorax is defined as closed pneumothorax resulting from leakage of air from the lung parenchyma itself without any history of trauma (Puerto et al., 2002). Spontaneous pneumothorax is relatively rare in dogs and in untreated cases pneumothorax causes severe debilitation (Pawloski and Broadus, 2010). The air in the pleural space causes the atelectasis of lungs due to loss of interaction between lung and thoracic wall. Treating pneumothorax involves removal of free air from the thorax as well as treating the underlying cause of the pneumothorax. This paper reports two clinical cases of spontaneous pneumothorax and its successful medical management without any relapse even after two months.

Case History and Observations

Case No. 1: A year old cross bred Labrador Retriever male dog was referred to the Outpatient unit of Madras Veterinary College teaching hospital with the history of severe respiratory distress. The animal went lateral recumbency since that morning. The animal was treated for pneumonia initially by a local vet. On clinical examination, the animal had tachypnea with respiratory distress. On auscultation and percussion, there was a hyper echoic resonance noticed. Radiological examination revealed the animal had collapsed lungs with atelectasis and elevated heart silhouette from its base due to accumulation air in the thoracic cavity (Fig. 1 & 2).

Case No. 2: A 4 year old Great Dane male dog was presented with the history of animal severe respiratory distress, exercise intolerance and retching since last day. The animal was treated for cardiac disease initially. Radiographic examination revealed that the accumulation of air in thorax and elevation of heart from its sternal base.

Treatment and Discussion

Both animals were referred to critical care unit for cardio-pulmonary resuscitation. The animals were stabilized under oxygen therapy and emergency thoracocentesis to evacuate the intra thoracic air were carried out by using 20G scalp vein set needle attached with three way stop cock on both the sides of 8th and 11th intercostals space thrice at 12 hour interval each. The animals were rehydrated with poly ionic fluids like dextrose normal saline and ringer’s lactate. Further owners were advised to give adequate rest until recovery. Spontaneous pneumothorax in dogs is not due to traumatic injury or iatrogenic cause and comparatively less common in nature (Maritato et al., 2009). Absence of known trauma indicates spontaneous pneumothorax in

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The most common cause of spontaneous pneumothorax is the rupture of pulmonary blebs or bullae (bullous emphysema). The other causes include pulmonary neoplasia, dirofilariosis, *Paragonimus* spp., tapeworm infestation, *Aelurostrongylus abstrusus*, bacterial and viral pneumonia, migrating foreign bodies, pulmonary abscesses, and parasitic granulomas (Pawloski and Broaddus, *loc cit*). Though primary bulla has not been identified in radiography of the above said two cases occurrence of parasitic origin might be suspected in both the cases because of poor deworming history. Tachypnea, tachycardia, respiratory distress, and anxiety are common findings during the physical examination of animals with pneumothorax. Lateral thoracic radiographs show elevation of the cardiac silhouette from the sternum. Radiopaque atelectatic lung lobes are visualized in radiographic examination (Maritato et al., 2009; Chirayath, 2016). Elevation of cardiac silhouette and atelectasis of lung lobes confirmed the pneumothorax in our cases. The pneumothorax in dogs has both respiratory and cardiovascular consequences. The accumulation of air exerts mechanical pressure on intrathoracic structures. The animal quickly loses the ability to compensate for the increased intrapleural pressure through an increase in chest expansion. Progressive pneumothorax results in increasing hypoxemia and diminishing cardiac output (Pawloski and Broaddus, *loc cit*). Both the animal recovered clinically on the second day of therapy onwards. Complete recovery without any relapse was noticed on third day. Recovery was also confirmed by radiography after 15 days.

**Summary**

Spontaneous pneumothorax in two dogs without any history of trauma was confirmed radiographically and managed medically by thoracocentesis. Complete recovery was noticed without any relapse even after 2 months.

**References**


