

GENERALIZED SUBCUTANEOUS EMPHYSEMA IN A DOG AND ITS THERAPEUTIC MANAGEMENT

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A two years old non descript male dog weighing 12 kg was referred to Teaching Veterinary Clinical Complex, College of Veterinary Science and A.H, DSVCKV, Anjora Durg with a complaint of generalized swelling of the thoracic and abdominal region with a history of ten days old dog bite wound over the inguinal region. The air was gradually expelled by subcutaneous puncture with 16 G needle from three different sites of abdominal regions. The air was directed manually toward the needle and thereby the subcutaneous air was released. The same procedure was followed for the next three days along with the medication. The clinical symptoms subsided gradually and the animal recovered eventually.

Keywords: Generalized, Dog bite wound, Subcutaneous emphysema..

Generalized subcutaneous emphysema also known as pneumoderma is a condition in which air becomes trapped under the skin. It mainly develops due to the accumulation of air in the subcutaneous region under the skin as a result of trauma or fracture of ribs of thoracic region, parenchymal lung wound and esophageal trauma. Several other factors responsible for this condition are trauma or injury, pulmonary emphysema, gas gangrene and surgical interventions. Early onset, fast extension, and characterized by crepitating or crackling sound being heard beneath the skin on palpation confirms this entity. Radiological examination is least useful to locate the rupture or tear although computed tomography can be beneficial for the diagnostic purpose (Bhandaland Kuzma., 2008). Different methods have been identified to relieve the entrapped gases such as subcutaneous holes, needles drain, subcutaneous catheters etc. (Das *et al.*, 2020). This report places on record generalized subcutaneous emphysema in a local nondescript sexually intact dog and its therapeutic management.

Case history and Observation

A two years old local non descript male dog weighing 12 kg was referred to Teaching Veterinary Clinical Complex, College of veterinary science and A.H, DSVCKV, Anjora, Durg, for generalized swelling of body. There was a history of dog bites in the inguinal region 10 days back. The animal had normal body temperature, appetite and no respiratory distress. There was an open wound in the inguinal region. Palpation over thoracic and abdominal region revealed crepitating sound indicating it to be a case of generalized subcutaneous emphysema. A complete blood count revealed, mild neutrophilia and eosinophilia whereas the rest of the blood parameters were within their normal range. Laboratory results showed that HCT - 38.1%, Hb (12.9g/dl), granulocytes (13.3×10^9 /L) in percent 89%, neutrophils (10.5×10^9 /L) and eosinophils (2.7×10^9 /L) while the other parameters were normal. The dog was not administered post bite anti-rabies vaccine as it was vaccinated and only palliative treatment was done by applying topical antiseptics and parental antibiotics by the local veterinarian, but there was no improvement and the subcutaneous emphysema was extended from the inguinal region.

Treatment

Initially, the case was treated with a conservative approach to expel the trapped air manually by puncturing the subcutaneous space and hence by pressing out the air toward the stabbed needle outlet. The subcutaneous puncture was done by 16 G needle in three different abdominal regions and the subcutaneous air was gradually released. The same procedure was repeated next three days along with the medication. The dog was treated with injection of Pheniramine maleate @ 0.2mg/kg.b.wt. IM along with Dexamethasone @ 0.5 mg/kg b.wt. IV and injection Amoxicillin+ sulbactam @ 300 mg/kg.b.wt. IM once daily for 5 days. Meanwhile, ointment butadiene was applied topically over the wound.

Results and Discussion

On day7, the subcutaneous emphysema was completely resolved as there was no crepitus felt on palpation and there was a visible reduction in wound size. Post-

medication CBC parameters came out to be within normal range and the animal has shown uneventful recovery. Subcutaneous emphysema is the accumulation of air or gas in the subcutaneous region under the skin may of either a local or diffused type. In the present case, subcutaneous emphysema has developed all over the body due to the accumulation of air in the subcutaneous region owing to the entry of air through the wound developed by the bite of the dog. A conservative approach was practiced to release the trapped air manually by puncturing the subcutaneous space and by pressing out the air toward the stabbed needle outlet. This was followed by supportive treatment to control infection and no surgical intervention was required.

The problem was resolved without any specific therapy as also reported by Rajesh and Jha (2011) that generalized subcutaneous emphysema in a non-descript goat as a result of a small cutaneous wound due to dog bite.



Fig.1. Dog Bite Wound In The Inguinal Region Along With Generalized Subcutaneous Emphysema



Fig.3. Directing subcutaneous air toward the needle ,hence making the air escape.

References

- Bhandal, J. and Kuzma, A.(2008). Tracheal rupture in cat: Diagnosis by computed tomography. *Can Vet J.*; 49:595-597.
- Das A, Kalita D, Padhan A and Hynniewta E. (2020). Generalized subcutaneous emphysema in a dog and its surgical management: A case report. *Journal of*

Entomology and Zoology Studies ; 8(5): 1376-1378.

- Rajesh, T. and P. Jha.(2011). Surgical correction of generalized subcutaneous emphysema in a goat by a novel method. *The North-West Veterinarian*, XI (1): 19.