Subcutaneous Emphysema in a Pullet

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Abstract
A pullet of 9 weeks age was presented to the clinics with generalized subcutaneous emphysema which was formed for the last four days. This condition was treated with multiple needle punctures at different areas over the skin, parenteral followed by oral oxytetracyclin along with supportive therapy. Pullet was completely recovered after three days of therapy.

Key Words: Subcutaneous emphysema, pullet, management

Introduction
Accumulation of pockets of air under skin was sometimes a dramatic event and which is found infrequently. The term subcutaneous emphysema means gas under the skin and is sometimes called windpuff (Riddle, 1997). In humans, it was most frequently due to soft-tissue infection with anaerobic, gas-forming bacteria (Clostridium spp.). It was also occurs occasionally following surgery, trauma (such as penetrating injuries), or spontaneous rupture of lung tissue with air escaping under pressure into the mediastinum and later into subcutaneous tissues. In birds because of their extensive system of intercommunicating airsacs extending into bones and body cavities may be more subject to subcutaneous emphysema. Due to improved management systems the condition is rarely observed in commercial poultry flocks. It can be easily managed when notice early and treatment instituted on time (Kamani et al., 2009). Present communication, subcutaneous emphysema in a pullet and its clinical management.

Case History and Observations
A pullet of 9 weeks age from back yard poultry of 86 birds was presented to the Ambulatory Clinic of Teaching Veterinary Clinical Complex with the complaint of decreased feed intake, lethargy, improper weight gain than compare with the other birds which were present in the
flock. Accumulation of gas was noticed under the skin for the past four days. Physical examination revealed presence of puffy areas all over the body. Clinical examination revealed hair loss, dullness, generalized gas accumulation under the skin with difficulty in breathing (Fig.1A). No pain was observed while palpation of emphysema. No sign of external wounds and lacerations over the skin was observed. Through history reveals one week onwards animal had reduction in feed intake and trapping of air stared from the neck, thoracic region, abdomen region and finally whole body. Faecal samples and blood from the wing vein was collected for the laboratory diagnosis.

![Fig.1A.Before therapy](image1.png) ![Fig.1B.After therapy](image2.png)

**Results and Discussion**

The condition was tentatively diagnosed as subcutaneous emphysema of unknown etiology. Laboratory examination of faeces and blood did not reveal any abnormality. Treatment was initiated with gently puncturing the skin over the body with sterile 20 G hypodermic needle after application of spirit over the skin. Air was extracted and then applied penicillin ointment over the punctured areas to prevent the bacterial contamination and further gas entry. Needle punch was done over the skin until considerable reduction of gas volume was evident. Pullet was treated with inj. Oxytetracycline @ 5mg/ kg body weight IM first three days, followed by oral administration for 5 days, inj vitamin A @ 0.1 ml on the day of presentation, oral administration of 1 ml of multivitamin syrup (Albplex) for the next ten days of period. By the fourth day the
bird resumed feeding on its own (Fig.1B). No recurrence was noticed up to four months of observatory period.

The gas is usually air, which has penetrated the subcutaneous tissues through a skin wound or as the result of damage to part of the respiratory system (Saif et al., 2003). In poultry it is as a disorder caused by air escaping from the respiratory system (air sacs, lungs and trachea). In such cases, the escaped air accumulates in the subcutis and inflates the skin. Some are of the opinion that air is pumped into the surrounding tissues by the tongue and other muscular movements associated with swallowing, from a wound caused by something sharp in the pharynx or the throat. The accumulated air then diffuses down the neck and produces a puffiness of the weight and pallor of skin (Saif et al., 2003). Emphysema can also arise when certain gas-forming anaerobic bacteria (Miroslav and Nelly, 1950). Subcutaneous emphysema, particularly at the cervical region commonly observed in influenza A virus infection. It is due to air escaping from damaged lung tissue, through the thoracic inlet and into the subcutaneous tissues of the neck and back. Rupture of the skin can be observed due to idiopathically or with head trauma. In these birds usually have severe subcutaneous emphysema along the head and neck observed and respirations are normal because this sinus does not communicate with the lower respiratory system. Cauterizing a small hole in the skin after topical application of a lidocaine cream can be done over the area of greatest distention. This usually heals in two to three days (James K M., 2013). When subcutaneous emphysema is detected early the prognosis is favorable and bird can resume normal activities within three days of post therapy and caution should be exercised when puncturing the skin to avoid damage to internal organs.

This paper describes the successful management of a rare case in pullet. Kamani et al., 2009 also successfully treated the subcutaneous emphysema in a pullet by puncture with hypodermic needle and antibiotic treatment.

**References**
