

# Benign subcutaneous emphysema of the upper limb

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- Subcutaneous emphysema is the presence of gas or air in the subcutaneous tissue plane
- The term is generally used to describe any soft tissue emphysema of the body wall or limbs, it can result from benign causes, most commonly secondary to trauma or from a life-threatening infection by gas gangrene or necrotising fasciitis.

## Case presentation

16 y old female patient

Acute presentation with pain in her left forearm and arm, swelling oedema and crepitation after a bite from an unknown insect approx. 3-4 days ago

- no fever
- Hemoleucogram , ESR, CRP – normal values
- X-ray showed extensive subcutaneous emphysema of the forearm



Treatment: Debridement of the wound, no foreign body was found  
Postoperative course: uneventful, resolution of the subcutaneous emphysema, good healing of the wound

## **Discussion**

Noninfectious causes of subcutaneous emphysema include perforation of the pulmonary or digestive tracts, blast injuries, cutaneous ulcers, air-gun injuries, dental extraction, and irrigation of wounds with hydrogen peroxide

In rare cases, large amounts of air can enter the soft tissues from small skin wounds, presumably as the result of a ball - valve mechanism

Benign causes of subcutaneous emphysema should be considered in patients presenting without any signs and symptoms of an infectious process or systemic illness.

## **Conclusion**

Insect bite is an extremely rare cause of benign subcutaneous emphysema

Conservative management may not result in an adequate resolution of symptoms, especially in cases of immunodeficiency

Therefore, in appropriately selected cases, surgical debridement may be required for satisfactory outcomes.

Adequate history, physical examination, laboratory studies and imaging are needed to delineate the cause, to prevent debilitating consequences and to avoid unnecessary procedures and interventions