

Factitious Dermatitis : A Non Infective Cause of Subcutaneous Emphysema

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ABSTRACT

We report a case of factitious dermatitis in a 17 year female student who presented with recurrent pain, swelling and subcutaneous crepitations of the forearm. A thorough investigation was done. Full blood count, erythrocyte sedimentation rate was normal. Plain radiographs revealed the presence of subcutaneous emphysema. MRI showed similar findings and revealed normal muscles. Colonoscopy and OGDS were normal, except for a small polyp at the gastro-esophageal junction. Based on the clinical findings and lack of correlation with the investigations a diagnosis of factitious subcutaneous emphysema was made.

Keywords: Subcutaneous emphysema, Factitious disorder, subcutaneous crepitations.

INTRODUCTION

Subcutaneous emphysema in the upper limb can be caused by many different causes. High pressure injuries are a common cause among the industrial workers. Spontaneous non infective subcutaneous emphysema of the hand can occur with no apparent reason. A suction device inserted following excision of a dorsal ganglion which was malfunctioning caused subcutaneous emphysema in the hand when the patient's body accidentally compressed on it. Other causes include iatrogenic, trauma, spontaneous pneumomediastinum, infectious disease such as Clostridia gas gangrene, ulcers of the elbow and factitious disease. High-pressure pneumatic tool injuries and use of a high-vibration tool without any open wound has been reported to cause extensive subcutaneous emphysema^[1]. Subcutaneous emphysema after dental treatment has also been reported^[2].

One of the rare causes of subcutaneous emphysema is dermatitis artefacta. All organic disease has to be excluded before making a diagnosis of dermatitis artefacta. Blood tests are inconclusive, however diagnostic imaging may show presence of gas in the subcutaneous tissue and no other abnormal changes in the surrounding muscles.

Dermatitis artefacta is not very common and diagnosis is made after excluding other causes with the help of laboratory investigations. It is not easy to make the diagnosis and if one is not careful an organic disease can be missed.^[3]

CASE REPORT

A 17-year-old school girl was admitted to the orthopaedic ward with a history of recurrent swelling on her right forearm and hand. The swellings occurred on the right hand and forearm every few months and subsided within a few days. There was no fever or any other systemic symptoms.

On examination she appeared to be well and there was a swelling on the dorsal aspect of the right hand extending to the distal forearm. On palpation there was no increase in local temperature and no tenderness. However extensive crepitus was present.

The full blood count and erythrocyte sedimentation rate were normal. Other laboratory parameters were also normal. Radiological examination revealed presence of air shadow in forearm. She was treated with a course of oral antibiotics.

Based on the clinical findings and investigations a diagnosis of factitious dermatitis was made. This was further supported by the fact that the location of these lesions were far from the gastrointestinal and respiratory tract. The lesions were similar to marks made by needle pricks. On further questioning she told us that she lived with her mother who was a nurse and her father was separated from her mother. The patient herself denied that she was unhappy. Her stay in the ward was uneventful and appeared to be rather cheerful during her stay. She was referred to the Psychiatric Department for further examination. Her father was told about her condition and was advised to bring her back if she developed any similar symptoms.

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Figure 1. Swelling, erythema and induration at the injection site on the dorsum of the right hand



Figure 2. Close up view of the injection site



Figure 3. X-Ray showing subcutaneous emphysema

At the psychiatric consultation, she was cheerful and was rather inappropriate as most patients would not have liked to be seen in the psychiatric department if they were sure they had no psychiatric illness. She was adamant she was fine but not perturbed by the appointment. She was rather dramatic and was vague and inconsistent when questioned in greater detail about her symptoms. In spite of the unusual symptoms she was not worried or depressed but was intrigued by the gadgets in the room and wanted tests to be carried out. She had no symptoms to suggest depression, anxiety or psychosis.

DISCUSSION

Subcutaneous emphysema occurs when there is soft tissue distension due to air or gas. The common causes of subcutaneous emphysema are trauma, certain medical procedures, spontaneous pneumomediastinum, and disease of gastrointestinal tract. Other causes include ulcers of the upper and lower extremity. Rarely subcutaneous emphysema may be due to factitious dermatitis. The source of the subcutaneous gas can be from gas-producing organisms or from the lung and gastrointestinal tract when there is a breach in continuity. In all these conditions mentioned the presence of emphysema is associated with systemic symptoms. In factitious dermatitis there will be no systemic symptoms. Presence of air in the soft tissue is suggestive of emphysema and can be clearly seen on plain x-rays.

This condition can be difficult to diagnose as the patients often deny causing the self-inflicted lesions, and give importance to other factors^[3].

In factitious disorders symptoms are intentionally feigned and lesions are self inflicted in order to be diagnosed sick, the motivation is psychological with no secondary gain sought. In malingering on the other hand the symptoms are intentionally produced, however in this situation the individual has an ulterior motive to achieve, such as avoiding enrolment in the armed forces or avoid attending a court case and also to claim compensation. The Munchausen syndrome is a chronic factitious illness with physical signs and symptoms which satisfies the DSM-IV criteria^[4].

The skin lesions self inflicted in a patient diagnosed with dermatitis artefacta, is done to satisfy an internal psychological need, that has to be looked into. The clinical features are characteristic, and varies from other conditions with almost similar presentation such as, malingering, Munchausen syndrome neurotic excoriations and delusional disorders^[5]. The female-to-male ratios range from 3:1 to 20:1, with the peak incidence of onset occurring in late adolescence to early adult life^[5].

Nielsen K *et al.*, reported that the anatomical areas involved included the face and neck, hands, arms, legs, and trunk, all were equally affected in about 40 percent of cases. Other areas such as the scalp and genital area were affected in 12 and 3 percent, respectively. Only 12 percent had a solitary lesion, on the other hand multiple lesions occurred in 88 percent of patients. Skin ulcers (72%), excoriations (46%) and erythema (30%) were the three most common type of lesions seen. The presenting complaints were pain (59%) and itching (37%). The cause of the lesion as described by the patients were not known (49%), trauma (18%), allergy (16%), self-infliction (9%), insect bites (5%), and infection (4%)^[3].

Personality disorder is present in most patients. It is common for them to have borderline features. The severity can vary from time to time and is influenced by the patient's surrounding circumstances. The patients denial of self-infliction and inhibition to meet the psychiatrist often makes it difficult to treat them^[3]. When the patient refuses to see the psychiatrist the treatment may be initiated by the dermatologist. Various drugs can be used to treat this condition. These can vary from selective serotonin uptake inhibitors to atypical antipsychotic agents. It is rather difficult to cure this disorder.

CONCLUSION

The occurrence of frequent subcutaneous emphysema with normal blood investigations in the absence of systemic symptoms is highly suggestive of factitious dermatitis. The diagnosis is made after excluding other possible causes of subcutaneous emphysema. The patient is fully aware of his or her actions and are able to plan their illness. This disorder is a feature of a psychopathy. In most cases deprivation during childhood and rejection has been identified to play a role in causing this disorder. Factitious dermatitis is a diagnosis by exclusion and must be made only after thorough investigations fail to provide explanation for the patient's clinical presentation.

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