

An unusual cause of swollen hand

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SUMMARY

An unusual cause of acute swollen hand is described in a ten year old boy without accompanying signs or symptoms. The subject is discussed under the light of current literature.

Key Words: Swollen hand, subcutaneous emphysema.

INTRODUCTION

What would be your diagnosis in a 12 year old boy presenting with a markedly swollen hand? Instant elucidation of possible diagnoses in our minds might be; some kind of trauma to the hand, perhaps one or several fractures, some kind of local or systemic infection, local or metastatic bone or soft tissue tumor, a-v malformations, lymphedema, insect bite, tenosynovitis, thermal injury to the hand, so on (1-4).

CASE REPORT

A twelve year old boy presented with a markedly swollen hand, without any accompanying symptoms.

He stated that, it occurred in a short time within the last 24 hours, and added that, the swelling did not increase, or, decrease from that time until his admittance to the emergency department. He did not recall any kind of trauma, neither to his hand nor to any part of his body. He had no pain with or without motion of the hand. There was no local or systemic temperature rise or discoloration, and no drainage. He had no systemic illnesses. Then, we proceeded with the systemic examination. The swelling was on the dorsum of the hand. There was no damage to the skin, no tenderness, no functional deficits and no



Figure 1. The swollen hand of the patient before needle aspiration.



Figure 2. Comparative x-ray of the forearms, showing, showing subcutaneous air in the right.

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Figure 3. X-ray showing subcutaneous air up to the axillary region.

deformities in his hand, and any part of his body. During palpation, crepitation was felt on the dorsum of the hand, but, it was not so clear, in the forearm and arm. Systemic examination including the head-neck, thoracic and abdominal regions, was normal. Laboratory examination was also normal, including complete blood count, ESR and CRP. The only positive laboratory finding was the x-ray of the hand, revealing subcutaneous air in the hand (Fig 1). We performed needle aspiration from the dorsum of the hand, and obtained air. Then, we went through with the x-rays of the forearm, arm and the thorax (Fig 2,3,4). There also, was subcutaneous air in the forearm and arm region, but there was nothing indicating pneumothorax or emphysema in the lungs, as it was on physical examination. The diagnosis was, spontaneous pneumothorax leading to diffuse subcutaneous emphysema. The patient did not develop any complications during the follow-up, and the swelling resolved spontaneously.

KAYNAKLAR

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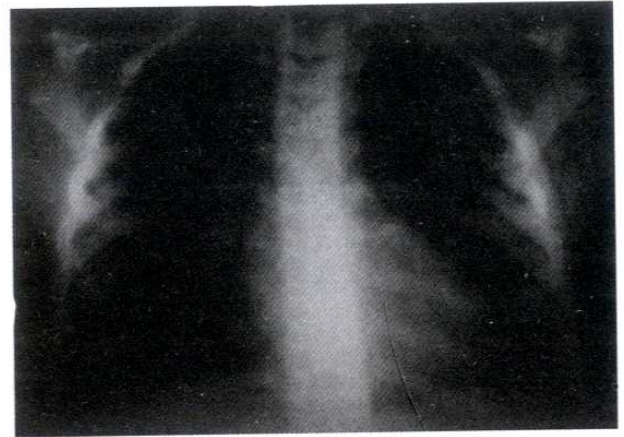


Figure 4. P-A x-ray of the lungs, with no detectable pathology.

DISCUSSION

A patient presenting with a swollen hand is common in hand surgery practice. There is a wide range of causes, but it was easy to differentiate this condition from those, by simple physical and laboratory examination. Similarly, subcutaneous emphysema may occur after serious thoracic trauma resulting with pneumothorax, and crepitation is felt by palpating especially the skin over the thoracic region. However, crepitation may also indicate one of the most frightening conditions in orthopedic surgery, infection with gas producing bacteria. In our patient, it was easy to eliminate the possibility of such an infection with physical examination. It was also not difficult to pursue the crepitation in the hand by both palpation, and roentgen graphics to the upper arm. Then, the diagnosis of subcutaneous emphysema due to a pneumothorax was made, despite the lack of symptoms and signs, and x-ray findings. Spontaneous pneumothorax leading to such diffuse subcutaneous emphysema, presenting as a swollen hand, without any systemic symptoms and patient discomfort and, also without x-ray findings, is a very unusual and interesting condition that we would like to share with our colleagues. Proper physical examination was the key to correct diagnosis.