

# Subcutaneous Emphysema Of Upper Extremity Following Air Gun Injury To The Hand: A Case Report

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## INTRODUCTION

Subcutaneous emphysema is presence of gas or air in the subcutaneous tissue<sup>1</sup>. This is caused by infective or non infective aetiology<sup>2</sup>. The presence of gas in the soft tissue following trauma usually due to gas forming organism<sup>2</sup>. Even though rare, few cases of non infective subcutaneous emphysema of upper limb had been documented<sup>2</sup>. A rare case of air gun injury causing subcutaneous emphysema of upper limb is highlighted in this case.

## CASE REPORT

A 48-year-old Myanmar gentleman presented with punctured wound over the right palm with generalized swelling extending to the whole upper limb following a continuous shot by air gun.



**Figure 1:** Right hand

Examination revealed extensive swelling of the right hand, forearm and arm with palpable crepitus (**Figure 1**). However, all compartment still soft with intact neurovascular status. Plain radiographs support the findings in clinical examination with presence of extensive gas shadow (**Figure 2**).

He was treated conservatively with arm sling immobilization, vital sign monitoring and analgesic. The swelling subsequently resolved during follow up and able return to work as usual.



**Figure 2:** Xray right humerus and right radius, ulna

## DISCUSSION

Subcutaneous emphysema of upper limb from non infectious causes had been reported in few cases but injury due to air gun has not been documented. It is due to high pressure air forced into the break in the skin and acts like a "ball valve type mechanism"<sup>1</sup>.

Proper history taking, physical examination and investigation need to be done to confirm diagnosis and to rule out infectious cause which require aggressive wound debridement<sup>2</sup>.

Non-infectious condition can be treated successfully with conservative treatment<sup>1-2</sup>. Immobilization of the limb can prevent from 'ball valve mechanism' secondary to the movement of the limb<sup>1</sup>.

## CONCLUSION

Continuous high pressure air can caused skin break and lead to subcutaneous emphysema.

## REFERENCES

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