

# Lytic lesion at olecranon could be a metastasis from lung. A case report and literature review

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## ABSTRACT

Lung cancer is known to have a high metastatic potential for the brain, bones, adrenal glands, lungs, and liver. Orthopaedic manifestations frequently include bony metastasis commonly to the vertebrae. Olecranon is less known for skeletal metastasis and its involvement as the primary site is least known in literature. We present a case of a 60 year old male who presented with lytic lesion at olecranon and turned out to be a secondary lesion with biopsy showing adenocarcinoma. Patient was evaluated further and primary lung cancer was diagnosed.

**KEY WORDS:** Olecranon lytic lesion lung; Metastasis lytic lesions

## INTRODUCTION

Skeletal metastasis of the lung malignancies are often considered to be the worst prognostic indicator. Lung malignancies accounts for more deaths than the next 3 most common cancers combined. Lung cancer is known to have a high metastatic potential for the brain, bones, adrenal glands, lungs, and liver. Orthopaedic manifestations frequently include bony metastasis, most commonly the vertebrae (42%), ribs (20%), and pelvis (18%) [1].

Acral metastatic disease is defined as metastasis distal to the elbow or the knee. Bony acral metastases from lung carcinoma to the upper and lower extremities are extremely uncommon, accounting for only 1% each of total bone metastases from carcinoma of the lung [2].

Axial skeleton is considered to be primarily involved than appendicular skeleton. This may be due to the red marrow of the axial skeleton. Appendicular skeleton is least involved and that too in advanced stages which may be explained due to the presence of fatty marrow [3].

Olecranon is less known for skeletal metastasis and its involvement as the primary site is least known in literature. We present a case of a 60 year old male who presented with lytic lesion at olecranon and turned out to be a secondary lesion (Adenocarcinoma of lung).

## CASE PRESENTATION

Sixty year old patient presented with complaints of pain and swelling in left elbow. Pain was insidious, dull, aching, moderate, aggravated with movements and relieved initially with analgesics. Movements at elbow were painful initially and restricted thereafter. There was no history of trauma. Patient was initially managed with analgesics and oral

antibiotics as there were signs of inflammation with raised ESR and CRP. Systemic examination was normal. Chest X Ray was normal. X ray elbow showed lytic lesion [Figures 1 and 2].

Biopsy was taken from the elbow. Histopathology report confirmed the presence of malignant epithelial cells in the form of nests and cords (Adenocarcinoma). Patient was advised CT Chest which revealed a lung mass and finally the lung adenocarcinoma. Patient was referred to the chest medicine department where he was treated for the same.

## DISCUSSION

Non-traumatic elbow swellings are caused by bony or the synovial pathologies which often require orthopaedic intervention. In the absence of clear diagnosis, biopsy is the main tool to reach the diagnosis. In this case the primary tumour was silent as there were no signs of malignancy or respiratory involvement. Lytic lesion in the elbow was picked up by plain X ray.

Olecranon is recently being highlighted as the site of skeletal metastasis.

Suguria H et al evaluated the predictors of survival in lung malignancy patients who had skeletal metastasis and concluded that the prognosis in patients with metastasis to the appendicular bone, such as the femur, is poorer than in patients with metastasis only to an axial bone, such as the vertebra, rib, or pelvis [1].

In bone metastasis from lung cancer, metastasis may occur easily at an axial bone through the vertebral vein system as described by Batson OV in 1940 [4] at an early stage and then at an appendicular bone in more advanced stages of the disease [5-12].



**Figure 1.** X ray showing the lytic lesion at the olecranon. Antero posterior view

Lung malignancies are often picked by the skeletal manifestations, but metastasis to olecranon process as the first manifestation of primary lung cancer has been rarely reported [13]. In literature the olecranon as the site for skeletal metastasis was first considered in Felines. However two case reports have recently been published where skeletal metastasis in olecranon have been highlighted. Ulna metastasis has also been reported from lung cancer in few cases [14, 15].

However they had the primary diagnosis of lung malignancy because of involvement of supra-clavicular lymph node or symptoms of respiratory system like breathlessness or haemoptysis.

Our case is different as such lesion was picked and biopsy was suggested in the absence of any systemic involvement.

### CONCLUSION

High suspicion should be kept while dealing with the olecranon lytic lesions or elbow swellings in elderly. They may present as the inflammatory conditions to begin with. The oral antibiotics and analgesics may settle the inflammation for few days but biopsy must be taken to confirm the diagnosis. Though we do not advise CT Chest in every case, but high risk patients should be properly screened.



**Figure 2.** X ray showing the lytic lesion at the olecranon. Lateral view

### CONFLICT OF INTEREST

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All authors contributed equally.

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