

## Petrified Ears in a Patient with Ankylosing Spondylitis. Is it a Forgotten Phenomenon?

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### Abstract

A 62 year old male with long standing B27-positive ankylosing spondylitis noticed a progressive painless enlargement of his ears auricles with rigidity. The radiological images including CT scan of the orbit revealed heavily calcified ear auricles. He had no past medical history of trauma, radiation therapy, relevant endocrinopathies or polychondritis to account for the calcification. To the best of our knowledge this would be the first reported case in the English literature of ear calcification caused by ankylosing spondylitis.

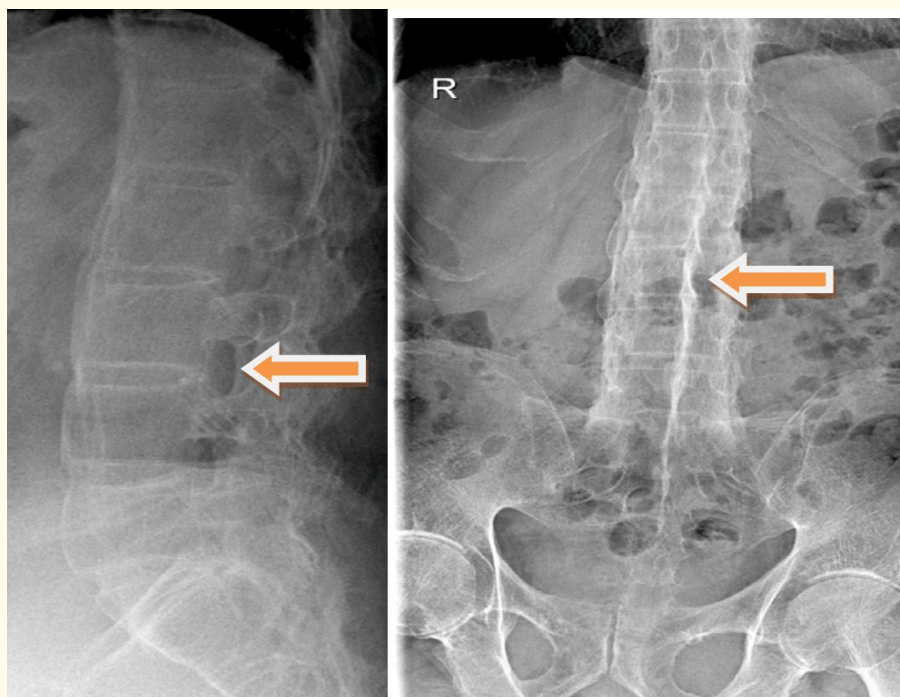
**Keywords:** Ankylosing Spondylitis; Trauma; Calcification; Ossification

### Introduction

Ear cartilage calcification or ossification is a rare condition. However, it may occur following local trauma, cold injury, hypopituitarism, Addison's disease, thyroid or parathyroid disorders, and radiation therapy. An idiopathic form has also been reported [1-4]. Reviewing the pertinent literature did not reveal such occurrence in ankylosing spondylitis before.

### Case Report

A 62-year male with HLA B27- positive AS since the age of 17 year. The disease was aggressive though, with the development of significant spinal stiffness including bamboo spine, calcified interspinous ligament, stage 4 sacroiliitis and calcified hip joints (Figure 1). In recent visits he emphasized that his ears are becoming larger and rigid (Figure 2). The course of his rigid ears was insidious with no past history of earache, hearing impairment or that suggestive of relapsing polychondritis. Radiographic examination revealed bilaterally calcified auricles of the ears (Figure panel 3, A, B and C) including in the CT scan of the orbit (Figure 4). He was managed with traditional NSAIDs followed by anti-TNF  $\alpha$  blockers in the last 8 years though, intermittently.



**Figure 1:** A (bamboo spine), B (calcified interspinous ligament, bilateral fused sacroiliac joints and calcified hip joints).



Figure 2: Showing enlarged and rigid ears.

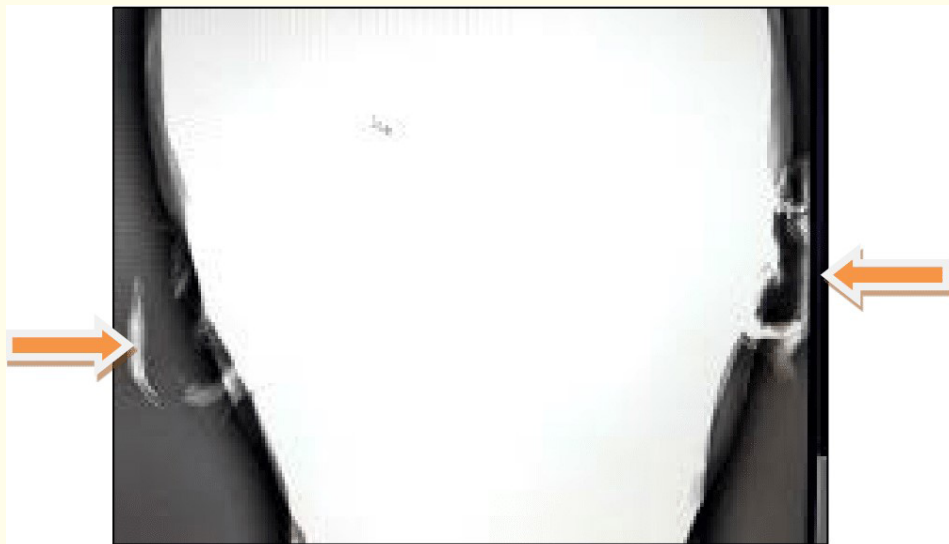
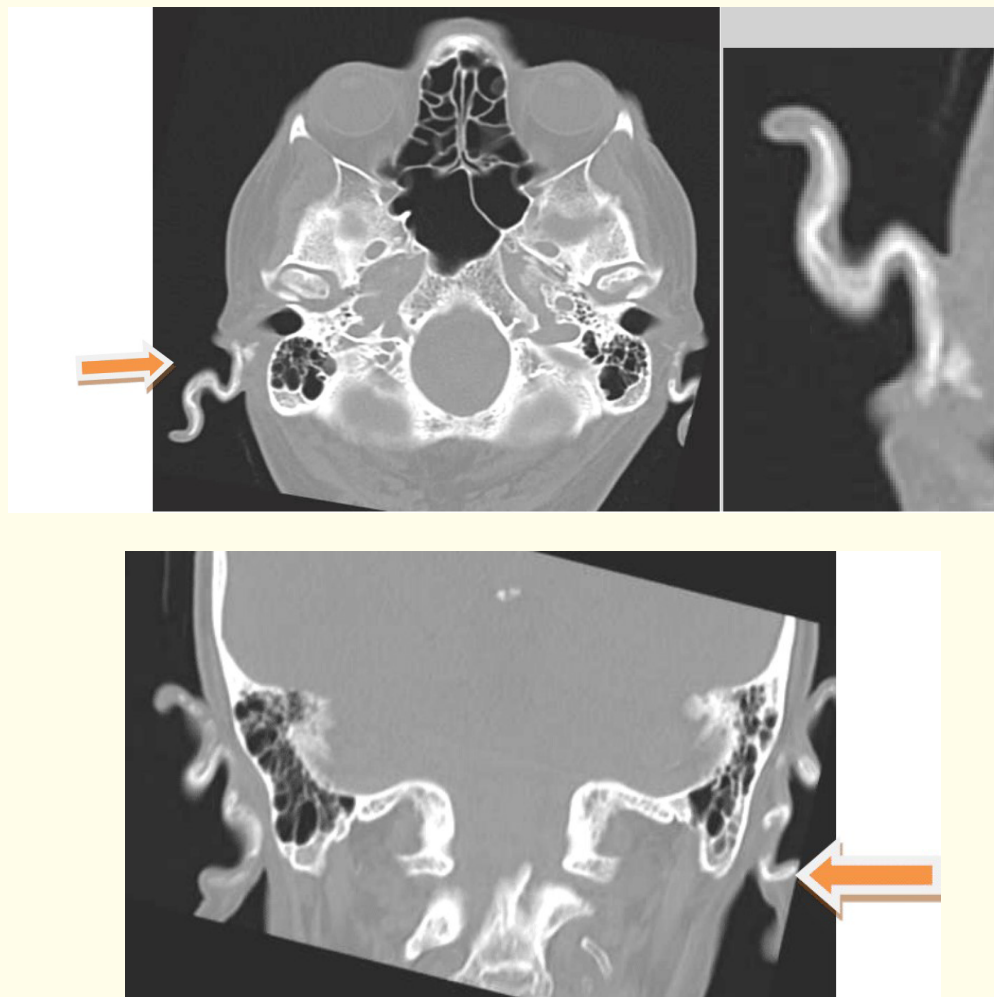


Figure 3: Showing ear calcification on AP and oblique images.



**Figure 4:** Showing clearly the ear calcifications on CT scan images.

The routine testing demonstrated moderate hypovitaminosis D of 25(OH) D of 15 ng/mL (N > 26 ng/mL) and PTH of 60 pg/mL (N 15 - 65 pg/mL) but with eucalcemia. Thyroid, pituitary and adrenal functions were normal. The CBC, ESR, CRP, RF, ANA, ds DNA, ENA s and ANCA (P and C) yielded either negative or normal values. Serum immunoglobulins were also of normal values.

Our impression is that the auricular calcification/ossification in this patient was likely induced by the disease itself. This postulation is supported by the longevity and the extent of the condition. The presence of significant calcification of the interspinous ligament and hip joints also add another potential clue. While the real patho-physiology of this auricular calcification is still to be determined one however can conclude that the use of anti TNF alpha agents did not influence the course of the calcifications.

We try through this unique case to draw the attention of clinicians to this possibly forgotten phenomenon in patients with AS and waiting for more reports in future cases.

### **Conclusion**

A 62 year old male with long standing B27-positive ankylosing spondylitis noticed a progressive painless enlargement of his ears auricles with rigidity. The radiological images including CT scan of the orbit revealed heavily calcified ear auricles. He had no past medical history of trauma, radiation therapy, relevant endocrinopathies or polychondritis to account for the calcification. To the best of our knowledge this would be the first reported case in the English literature of ear calcification caused by ankylosing spondylitis.

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