

# Phosphaturic Mesenchymal Right Hip Tumor with Tumor-Induced Osteomalacia as a Cause of Fall in a Nursing Home Resident

Aryan Dowlatshahi, MD<sup>1</sup>, Umar Khan, MD<sup>1</sup>, Mohsen Ghadimi-Mahani, MD<sup>1</sup>

<sup>1</sup>University of the Incarnate Word, <sup>2</sup>Laredo Medical Center  
Laredo, Texas

## Introduction

We present the case of a 66-year-old male with phosphaturic mesenchymal tumor who was lost to follow up and subsequently did not receive optimal care. This is in large part secondary to poor guardrails in place for compliance in vulnerable populations such as this patient.

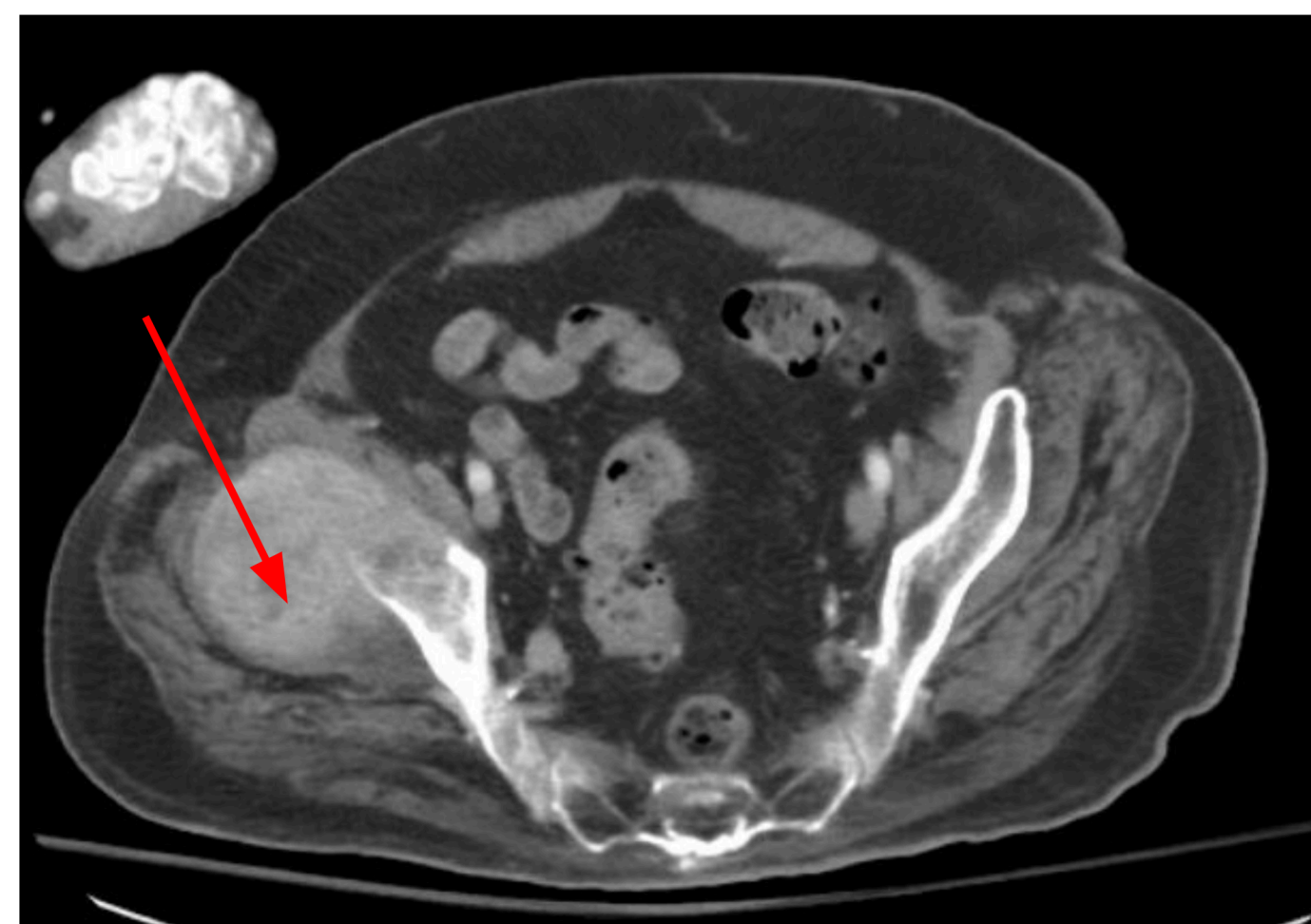
## Methods

This was a case study of a single geriatric patient whose hospital course occurred began May 2023 at Laredo Medical Center. The patient was evaluated by several teams including general medicine, orthopedic surgery, and medical oncology, and orthopedic oncology. Data was collected from the patient's caregivers including the outpatient providers, nursing home staff, and legal guardian in addition to chart review.

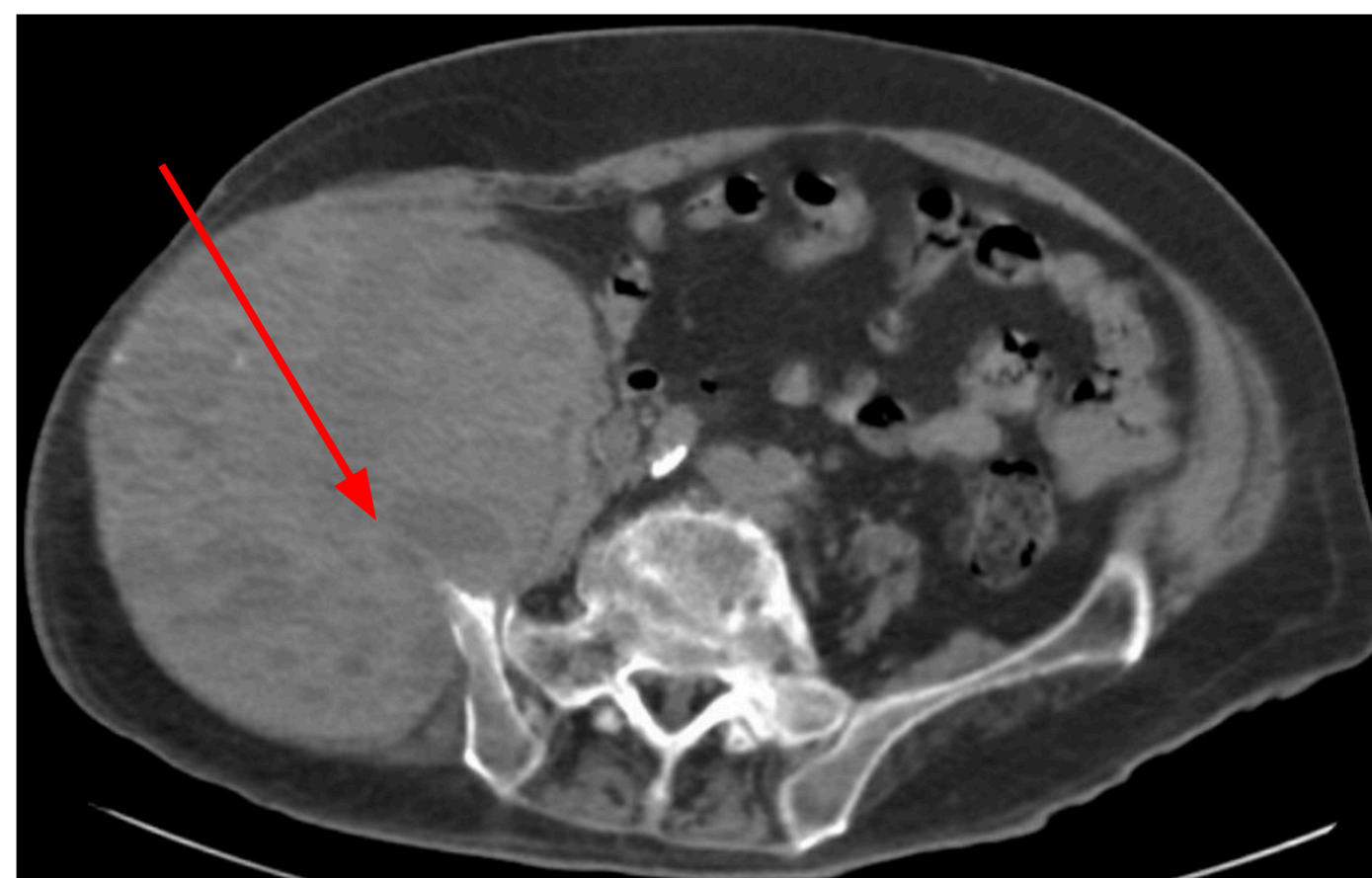
## Case Description

The patient is a 66-year-old Hispanic male with a past medical history of right hip PMT diagnosed in 2019, dementia, hypertension, seizure disorder, and stroke resulting in left hemiparesis who presented following a fall event that occurred at his nursing home in May 2023. Initial CT abdomen and pelvis revealed a sizable right iliac tumor with a destructive expansile mass arising from the medullary cavity of the right iliac bone with homogeneous enhancement. Tumor biopsy in 2019 revealed a mesenchymal tumor that was diffusely positive for vimentin and ERG markers staining for mesenchymal tumor nuclei, leading to the diagnosis of paraneoplastic oncogenic osteomalacia. Endocrinology started the patient on vitamin D, phosphorus, and calcium supplementation upon initial diagnosis. Unfortunately, the patient was lost to oncology follow-up for several years. Repeat imaging at the time of the 2023 fall revealed that the tumor had grown by roughly 2000%. Orthopedic oncology was consulted and recommended nonoperative treatment since the patient was not an ideal candidate for a hemipelvectomy procedure and anesthesia given his comorbidities and risk factors.

## Pathological Findings



**Figure 1** - CT Abd/Pelvis Oct 2019. There is a destructive fairly homogeneously enhancing mass arising from the right iliac bone measuring 6.4 cm in AP diameter by 7.4 cm in transverse diameter by 5.8 cm in craniocaudal diameter.



**Figure 2** - CT Abd/Pelvis May 2023. Interval enlargement of a 17.2 x 17.3 x 16.8 cm mass within the right iliac bone, previously measuring 6.6 x 6.0 x 6.1 cm on October 30, 2019.

Date: May 4, 2023  
Tumor Volume (2019) 241.56  
Tumor Volume (2023) 4999.008  
2069.47% increase  
Oct 2019 - May 2023

## Results

The patient was diagnosed with a phosphaturic mesenchymal tumor, whose diagnosis is often delayed. In most cases, resection is curative. The patient was diagnosed in 2019 and later evaluated by orthopedic oncology for curative resection. Decision for surgical intervention was deferred due to multiple comorbidities including dementia. Patient was advised to follow outpatient with a medication regimen but was lost to follow up. He was readmitted in 2023 but noncompliant. Additionally, his tumor had increased roughly 2000% in size with worsening metabolic derangements leading to pathological fractures. The ultimate recommendation by all teams was palliative care with continued physical therapy, given the patient's poor performance status. Case management was arranged for hospice services, and the patient was discharged to his nursing home.

## Conclusion

This case highlights a failure of safeguards for vulnerable populations including the geriatric and cognitively infirm. This patient was incapable of independent care or possessing the mental faculties for self-advocacy. The patient was diagnosed within a reasonable time but did not receive curative therapy because of his comorbidities; with the expectation he would receive optimal care with medical management. Given this patient's propensity for noncompliance, it is reasonable to assume that he would have benefited from a more aggressive/curative approach to his condition. We appeal that populations vulnerable to indirect noncompliance should be managed with more aggressive/curative means if options are available.

## Acknowledgements

Thank you to Dr. Hector Santos, program director of the Laredo Medical Center Internal Medicine Residency Program and Dr. Mohsen Ghadimi-Mahani, head of the Laredo Medical Center Hematology/Oncology department.

**Contact:** [dowlatsh@uiwtx.edu](mailto:dowlatsh@uiwtx.edu),  
[ukhan@uiwtx.edu](mailto:ukhan@uiwtx.edu), [mohsen\\_mahani@chs.net](mailto:mohsen_mahani@chs.net)