

Chronic Widespread Pain as a Result of Secondary Hyperparathyroidism

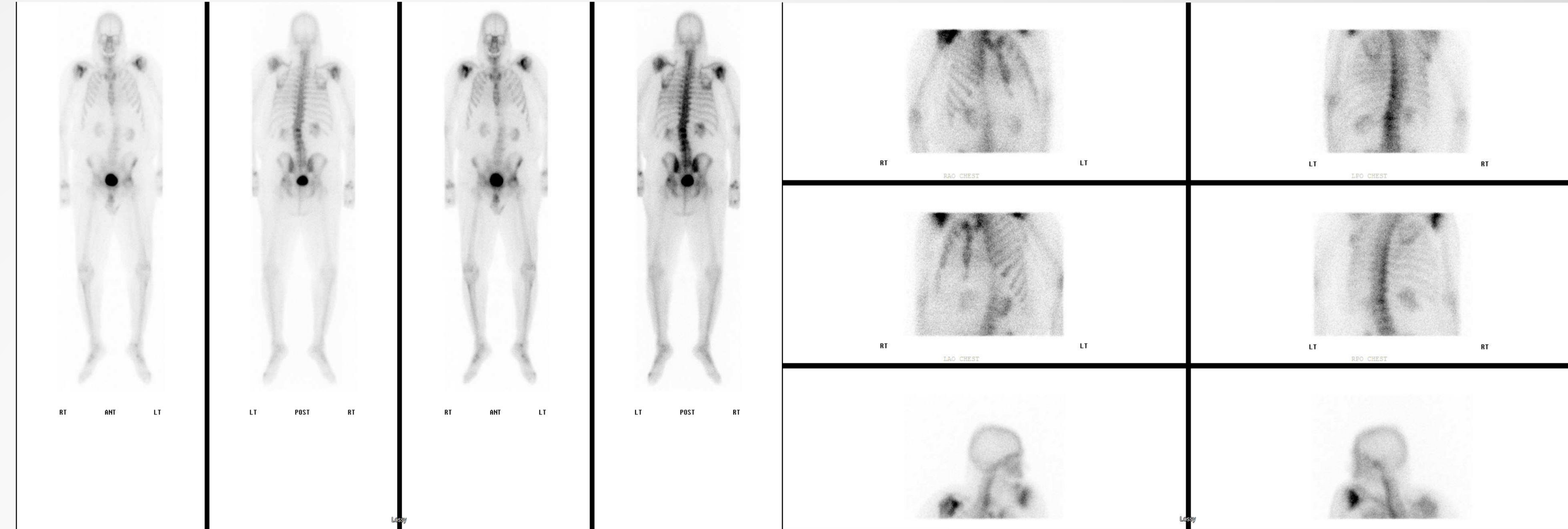
Harmanjot Singh, DO¹, Sarah Endrizzi, MD²

¹Department of Physical Medicine and Rehabilitation, Medical College of Wisconsin, ²Department of Anesthesiology, Medical College of Wisconsin



Introduction

While chronic widespread pain is a common complaint in the Pain Clinic, hyperparathyroidism is not a commonly considered diagnosis when evaluating patients with this symptom. Common symptoms of primary hyperparathyroidism include nausea, vomiting, fatigue, constipation, and hypotonicity of the muscles and ligaments, while secondary hyperparathyroidism can present as widespread bone pain and tenderness. When patients present with widespread chronic pain, it is always essential to determine the type and source of the pain. Once medical management fails to treat more common causes of this type of pain, such as myofascial or neuropathic etiologies, or central pain syndromes, it is important to look for other causes of the patient's pain.



Case Study

- The patient originally presented to the pain clinic as a 77-year-old male with past medical history significant for atrial fibrillation, hypertension, heart failure with preserved ejection fraction, neuropathy, and reported generalized pain that started three years prior.
- On physical exam, the patient had normal 5/5 strength in all tested muscle groups with no muscle wasting or atrophy noted. MRI was significant for overall moderate to severe stenosis at the C4-C5 and C5-C6 levels, along with degenerative changes along the cervical spine on X-ray. Shoulder x-ray also showed significant osteoporotic changes in the glenohumeral joints.
- After an interval of about 5 months, the patient then presented to his primary care physician's office with a progressive history of weakness, lightheadedness, stomach upset, thought changes, and generalized uneasiness over the course of the past few months.
- Labs were collected and were significant for an elevated ALP and PTH with no abnormality of his measured serum calcium level. A spot urine calcium level was in the low normal range.
- He was started on levothyroxine with some relief of pain, and he agreed to simply monitor and arrange to follow up in 6 months with endocrinology.

Discussion

- Myopathy-like symptoms such as fatigue and muscle weakness related to hyperthyroidism cannot be excluded when assessing a patient with chronic widespread pain.
- Reported cases of normocalcemic hyperparathyroidism with neuromuscular symptoms are very rare, causing this to be an overlooked cause of pain
- Energy metabolism disorder and catabolism of skeletal muscle are the two mechanisms underlying the causes of muscle pain in hyperparathyroidism .
- The types of pain experienced in hyperparathyroidism are also varied, with reports of arthralgia, muscle pain, and bone pain as complications of osteoporosis

References

- Mihashi I, Ishii K, Ogawa Y, Uchida A, Hara H, Tamaoka A. Normocalcemic Primary Hyperparathyroidism Presenting with Muscle Weakness and Body Pain. Intern Med. 2021 Mar 15;60(6):953-956. doi: 10.2169/internalmedicine.6131-20. Epub 2020 Nov 30. PMID: 33250466; PMCID: PMC8024951.
- Borgia AR, et al. Hiperparatiroidismo, una causa olvidada de dolor músculo-esquelético difuso. Reumatol Clin. 2012. <http://dx.doi.org/10.1016/j.reuma.2012.02.008> (reviewed English translation).
- Patten BM, Bilezikian JP, Mallette LE, Prince A, Engel WK, Aurbach GD. Neuromuscular disease in primary hyperparathyroidism. *Ann Intern Med* 80: 182-193, 1974.