



A Case of Pancreatitis-Panniculitis-Polyarthrititis Syndrome: Tackling Cancer Pain with a Rare Condition

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Introduction

Pancreatitis-Panniculitis-Polyarthrititis syndrome (PPP syndrome) is a rare cancer-related pain characterized by pancreatitis, peripheral cutaneous erythematous nodules, and polyarthrititis. It is hypothesized that PPP syndrome is a result of uncontrolled release of pancreatic enzymes that deposit in soft tissues, causing fat necrosis in various organ systems. Although cases are rare, early recognition of this syndrome and robust pain management may decrease morbidity and improve quality of life.

Case Presentation

51-year-old female with PMH breast cancer presents with erythema and severe knee and ankle pain, and 1 month of abdominal pain

Initial Workup, Diagnosis, Treatment Course:

Outpatient rheumatologic serum workup and biopsy suggestive of *erythema nodosum* due to inflammatory arthritis → treated with steroids and antineoplastic therapy

Secondary Medical Course:

- Multiple hospitalizations for pain, diagnosed with **pancreatic cancer with liver metastasis**
- Underwent Y90 embolization treatment and distal pancreatectomy and splenectomy with clear margins → lipase normalized, improved edema
- Persistent joint pain and constellation of clinical findings concerning for **PPP syndrome**



Fig 1. Admission photo

Evaluation & Treatment

Pain Presentation:

Pain is located in bilateral ankles and knees, and is described as a constant sharp, throbbing sensation that is non-radiating. Rates pain at best 3/10, and at worst 8/10. Her pain is exacerbated by ambulation/activity. Pain medications help temporarily. She separately has numbness and tingling in her hands and feet that is worse at night. Mobility & ADLs are limited in setting of pain. She uses a walker to aid with ambulation

Physical Exam:

- Improved skin lesions
- Lower extremity edema
- Joints stable
- Gait and station antalgic

Pertinent Labs:

- Marked elevation in serum lipase (2491 U/L → normalized with chemotherapy)
- Positive Anti – Nuclear Antibodies (ANA)

Significant Imaging:

CT Abdomen/Pelvis – s/p Y-90 treatment changes in hepatic segments 7 & 8; no evidence of viable tumor

MRI Ankle & Knee – Osteonecrosis without collapse; meniscal tears

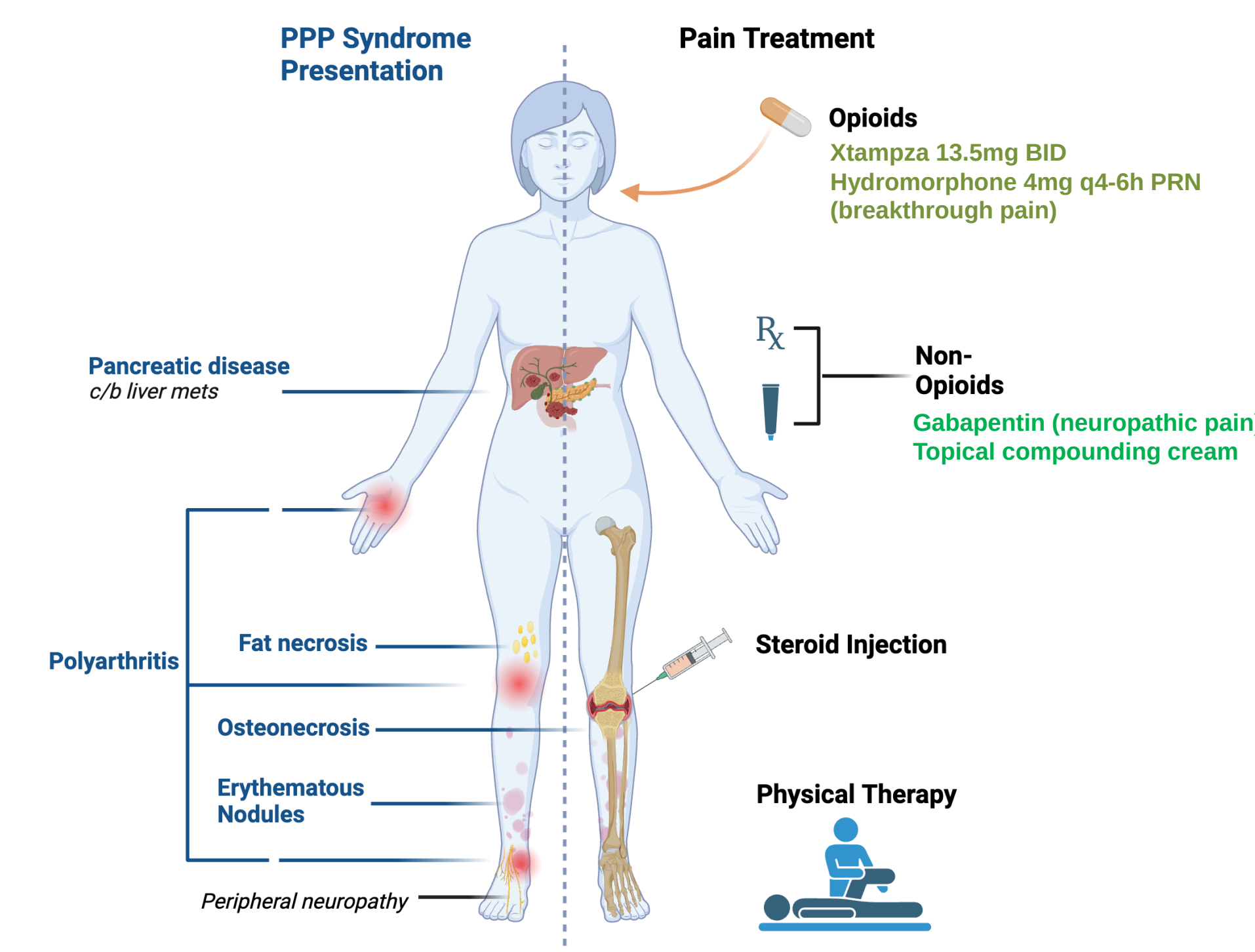


Fig 2. PPP Presentation and Treatment

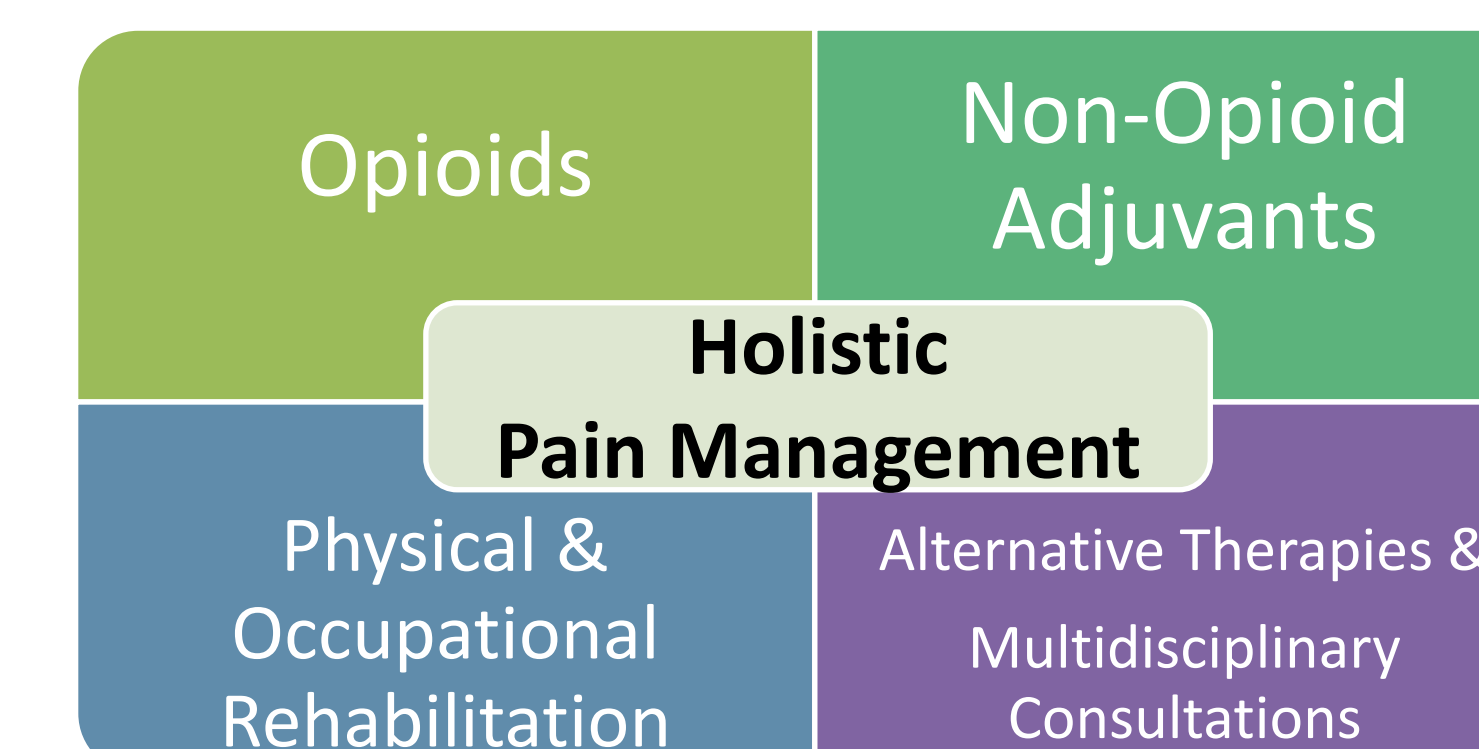


Fig 3. Holistic Pain Management Approach

Discussion

Misdiagnosis of PPP syndrome may occur throughout a patient's clinical course. Despite limited research available, early recognition of this clinical triad is critical to prevent osseous complications, irreversible articular damage, and delayed pain management.

This patient's chronic pain in the setting of PPP syndrome correlates with nociceptive and neuropathic pain components that have caused significant negative impacts on daily activity and functional capacity.

Optimization of a multimodal and multidisciplinary pain management regimen is essential to cancer pain therapy and improved quality of life.

Our use of a personalized, comprehensive pain regimen has helped to improve the patient's participation in daily activities. Future therapy may include targeted steroid injections to better tackle her cancer pain symptoms.

This case brings awareness to a rare diagnosis and the importance of providing high-quality care for patients suffering from cancer-related pain

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