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Presentation

Severe Acute Pancreatitis with Livedo Reticularis: A Rare Cutaneous Manifestation

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Abstract

Severe acute pancreatitis is a condition that often does not show visible skin signs, so the presence of livedo reticularis, in such cases, is noteworthy. This account describes the management of a patient with pancreatitis who also had livedo reticularis. Livedo reticularis is identified by skin markings. It occurs due to changes in skin blood flow related to health issues. While it is uncommon, it mainly affects women. Shows reversible discoloration. Pathological livedo racemose, another form of livedo reticularis, displays patterns. Is usually linked to underlying conditions. Although there is a connection between livedo reticularis and pancreatic problems, acute pancreatitis alongside this condition is rarely reported. In this instance, severe acute pancreatitis was strongly linked to levels that worsened inflammation throughout the body and organ function. The diagnosis was based on symptoms, enzyme levels, and imaging results of livedo reticularis, which indicated inflammation involvement and changes in small blood vessels. Treatment focused on correcting metabolic issues and reducing inflammation through insulin infusion and lipid-lowering therapy. The improvement in livedo reticularis after starting treatment highlights how lowering inflammation, enhancing blood vessel function, and correcting metabolism all play a role in achieving outcomes. This underscores the importance of a treatment approach for results when dealing with pancreatitis while investigating unusual skin symptoms.

Introduction

Severe acute pancreatitis is a potentially life-threatening situation that can have symptoms. Skin problems are not common, and livedo reticularis makes this case noteworthy. This report aims to document the difficulties in diagnosis and treatments provided to a patient experiencing severe acute pancreatitis alongside livedo reticularis.

Case Presentation

A 42-year-old woman with a significant medical history of cholecystectomy and untreated type 2 diabetes presented with acute chest pain and tachycardia. The chest pain, persisting for a week, intensified and radiated to the back and left shoulder. A recent fall on her right side coincided with the onset of severe chest pain resembling her previous gallbladder pain.

Upon admission, the patient exhibited visible discomfort with a heart rate exceeding 130 beats per minute. Comprehensive laboratory investigations revealed elevated liver enzymes (ALT 70 U/L, AST 92 U/L, alkaline phosphatase 250 U/L), markedly elevated lipase levels (1124 U/L), and hypertriglyceridemia (triglyceride level 1367 mg/dL). Thyroid function tests indicated an elevated TSH of 6.8 mIU/L and a decreased free T4 of 0.68 ng/dL. An elevated white blood cell count (12.8 x 10^9/L) and an ESR of 16 mm/hr were also noted.

Imaging studies were conducted to explore potential cardiovascular and abdominal causes. Contrast-enhanced Tomography (CTA) ruled out pulmonary embolism and revealed a normal thoracic and abdominal aorta, eliminating acute aortic processes. Subsequent Magnetic Resonance Cholangiopancreatography (MRCP) confirmed acute pancreatitis.

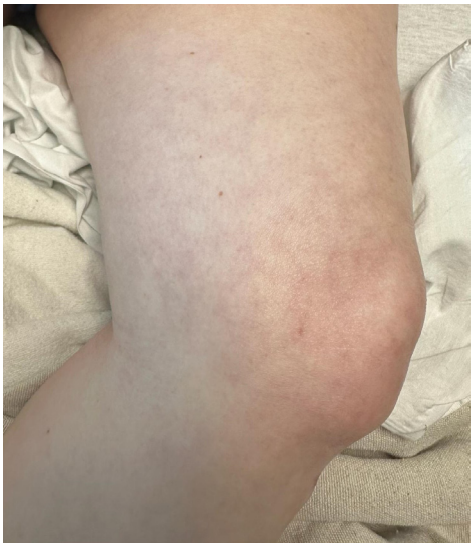

Figure 1:

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Despite proper hydration and pain control, the patient's condition did not improve for over a week. A repeat CT scan revealed ongoing pancreatitis without necrosis or complications. To address hypertriglyceridemia, an insulin drip was initiated, along with a statin/fenofibrate regimen. The patient, initially resistant to Nasogastric Tube (NGT) placement, eventually agreed. After seven days of uncontrolled pain and oral intake intolerance, the patient reported skin changes on both lower extremities consistent with livedo reticularis, a rare cutaneous manifestation.

Following NGT placement, the patient gradually improved, enabling the reintroduction of an oral diet and tapering of pain medications. Livedo reticularis, mirroring the clinical improvement, resolved. The patient was discharged after a 13-day hospital stay and scheduled for outpatient follow-ups with both gastroenterology and endocrinology.

Discussion

Livedo reticularis manifests as skin lesions with patterns. It occurs due to changes in blood flow in the skin associated with pathological conditions. First described in 1907, it is categorized into physiological livedo reticularis and pathological livedo racemose. Presently, livedo reticularis is generally considered a condition that predominantly affects young to aged women, causing symmetric and reversible discoloration. On the other hand, pathological livedo racemose is irreversible and often secondary to conditions. Although clinically similar to livedo reticularis, it displays skin patterns resembling forked lightning. May suggest vasculitis upon examination by touch. The common association is with antiphospholipid antibodies. While there has been a linkage between livedo reticularis and pancreatic issues, cases of acute pancreatitis alongside this condition have been documented, potentially due to trypsin effects on blood supply. Chronic pancreatitis is seldom connected with livedo reticularis; immune-mediated mechanisms might play a role in skin lesion development without showing expected vasculitis features histologically [1].

Severe acute pancreatitis, in this instance, was strongly associated with levels, a known causative factor. Increased triglycerides can form fatty acids in the pancreas, leading to inflammation and self-digestion. The subsequent release of substances like interleukins and tumor necrosis factor-alpha contributes to the inflammatory response and dysfunction of multiple organs observed in severe cases [2].

The diagnosis of acute pancreatitis was confirmed based on symptoms, elevated enzymes (particularly lipase), and imaging results. The patient presented with chest pain, rapid heartbeat, and a recent fall, with lab tests showing high lipase levels and hypertriglyceridemia (1367 mg/dL). Imaging tests such as CTA and MRCP verified acute pancreatitis while ruling out causes. The appearance of livedo reticularis introduced an element to the progression, hinting at a potential connection to the systemic inflammatory response and changes in small blood vessels [3].

The treatment approach concentrated on addressing the underlying levels and reducing the inflammatory reaction. An insulin infusion was started to lower levels by targeting the reduction of fatty acids. Additionally, a combination regimen of statin/fenofibrate was prescribed to manage lipid levels [4].

The patient initially faced challenges with accepting the NGT placement, which impacted the provision of support but later proved crucial in managing intake intolerance. The holistic treatment plan also included pain management, ensuring hydration, and closely monitoring for any complications [5].

The connection between starting treatment measures and the improvement in livedo reticularis is significant. Although the exact reasons are not fully known, it is believed that reducing inflammation, enhancing microvascular circulation, and correcting metabolic issues likely played a role in resolving this skin condition. The importance of NGT placement in supporting nutrition and aiding recovery should not be underestimated [5].

Conclusion

This case emphasizes the complexity of pancreatitis due to hypertriglyceridemia, which is complicated further by the rare occurrence of livedo reticularis. Effective patient care involves addressing the causes and associated issues with an approach from various healthcare professionals. Further research is necessary to understand how severe acute pancreatitis and livedo reticularis are connected, leading to improved patient care strategies through enhanced knowledge of disease presentations.

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