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Spontanous Remission of PAN

Arowa Abdelgadir[1], Srinivasa Elamanchi[2]

[1]Department of Acute Medicine, Walsall Manor Hospital, Walsall, UK
[2]Sandwell and West Birmingham Hospitals, NHS TRUST, Lyndon, UK
Email: arowa.abdelgadir@nhs.net, srinivasa.elamanchi@nhs.net

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Abstract

Polyarteritis nodosa (PAN) affects mostly medium-sized arteries and sometimes small ones as well. The primary methods used to make the diagnosis are through physical examinations, biopsies of organs that are affected, and/or angiographic studies. Immunosuppressants like glucocorticoids and cyclophosphamide are usually started as soon as possible after a diagnosis. So, it's not clear if sudden remission of PAN happens or not. Here we present a 42-year-old male who presented with right upper quadrant, right flank pain and fever. CT angiogram Aorta revealed soft tissue rind around the small to medium sized vessel in the abdomen and bilateral cortical renal infarcts of variable age in the right more than the left. A diagnosis of polyarteritis nodosa was made and the patient achieved spontaneous remission with no need for corticosteroids or immunosuppressive therapy.

Keywords

Polyarteritis Nodosa (PAN), Spontaneous Remission

1. Introduction

In this case, we present the clinical scenario of a middle-aged man with Polyarteritis nodosa (PAN). PAN is a systemic necrotizing vasculitis that primarily affects medium-sized and small arteries, commonly diagnosed in middle-aged or older adults with a higher prevalence in males [1] [2]. The patient initially presented with right upper quadrant pain and right flank pain, which was attributed to vasculitis involving the coeliac trunk and right common iliac artery. Alongside systemic symptoms like fatigue, malaise, arthralgia, and fever, PAN can impact various organs such as the kidney, skin, joints, muscles, nerves, and digestive tract [1] [2]. It is important to note that PAN can present in different clinical variations, ranging from single-organ involvement to cutaneous-only manifestations [3]. While PAN is not commonly associated with anti-neutrophil cytop-

lasmic antibodies (ANCA), it can occur in both idiopathic and secondary forms, with the latter often linked to hepatitis B, hepatitis C, and malignancies [4]. Histopathological examination typically reveals evidence of localized necrotizing arteritis and a mixed inflammatory infiltrate [4].

2. Case Report

A 42-year-old male with no past medical conditions was admitted to the internal medicine unit due to the onset of abdominal pain in the right flank and right upper quadrant, which began one week prior to hospitalization. It was associated with nausea and fever. Before being admitted, the individual had previously sought medical attention at the emergency department on one occasion and had a brief period of hospitalization. It was initially thought that the patient had a kidney stone, but imaging tests disproved this diagnosis. Instead, the patient was given analgesia for non-specific abdominal pain, but the medication was ineffective. He denied having any urinary symptoms and had no systemic manifestations. Prior to his hospitalization, he had a history of nonspecific abdominal pain that doctors believed was caused by a stone that had passed away on its own 10 years earlier. There is no other significant medical history to report.

During the examination, the patient's vital signs were within normal range, although there was some slight tenderness in the right upper quadrant and the region of the right flank. Normal bowel sounds. He did not have a skin rash. The remainder of the physical examination yielded no noteworthy findings.

3. Investigations

The laboratory analysis revealed a coagulation profile and renal function within normal range. The patient's hemoglobin level was measured at 146 g/L(130 - 180 g/L), their white blood cell count was 10.8×10^9/L ($(4 - 11) \times 10^9$), and their platelet count was 243×10^9/L ($(150 - 450) \times 10^9$/L). The patient had a notable increase in C reactive protein levels, measuring 147 (mg/l) (normal level < 5), as well as an elevated Westergren sedimentation rate of 30 (mm/h) (0 - 10 mm/hr). The level of alkaline phosphatase was found to be 115 international units per liter (IU/L) (30 - 130 IU/L), while alanine aminotransferase was measured at 61 IU/L (0 - 41 IU/L). However, the levels of total bilirubin and amylase were within the normal range. The serological test results for Hepatitis B were negative. Urine analysis showed white cells 3/microliter, epithelia cells 3/microliter, and no growth or cast cells.

The immunological test revealed weakly positive results for anti-nuclear antibodies. The results of the laboratory tests for anti-dsDNA, myeloperoxidase antibodies, proteinase-3 antibodies, and rheumatoid factor were all found to be negative. The levels of serum complement C3 and C4 were within the normal range.

Thorax, Abdominal and pelvic CT scan with intravenous contrast showed very unusual appearance of the coeliac trunk and its branches. Fat stranding

suggesting inflammatory changes are seen surrounding the coeliac trunk which extends to involve the branches. There is luminal narrowing and possible thickening of the walls of the artery. Large areas of hypodensity are seen in the right kidney. These areas most likely represent infarcts. CT angiogram Aorta revealed soft tissue rind around the the small to medium sized vessel in the abdomen of the following (right coeliac axis, splenic artery, proximal GDA, segmental branches of both renal arteries and probably proximal right common iliac artery) and bilateral cortical renal infarcts of variable age (on the right kidney more than the left). PET CT scan was done which showed thymic hyperplasia and mild vasculitis of the coeliac trunk and right common iliac artery.

4. Diagnosis

A broad spectrum of conditions can cause discomfort in the right upper quadrant, including liver and gallbladder issues, pancreatic disorders, pyelonephritis, nephrolithiasis, and cancer. Our patient underwent a comprehensive evaluation, including laboratory testing and imaging scans, which effectively ruled out these possibilities. The diagnosis of polyarteritis nodosa (PAN) was established based on the patient's clinical presentation and findings from CT angiography and PET scan. These scans revealed evidence of vasculitis in the coeliac trunk and right common iliac artery, as well as bilateral cortical infarct, with a predominant focus on the right side. The negative results for anti-dsDNA, myeloperoxidase antibodies, proteinase-3 antibodies, and rheumatoid factor indicate that other types of vasculitis and associated autoimmune diseases have been effectively ruled out in this case.

5. Treatment

The patient was treated conservatively. He experienced a gradual improvement in abdominal pain several days after being admitted. Following the review of the imaging findings, a consultation was held with the rheumatologist to deliberate on the necessity of initiating corticosteroid treatment for the patient. The rheumatologist recommended commencing corticosteroids if there was evidence of clinical and biochemical deterioration, as well as the presence of systemic manifestations in the patient. The patient's condition showed signs of improvement, thereby obviating the need for corticosteroids or immunosuppressive medication.

6. Outcome and Follow Up

He experienced a migraine-like headache a few days after being discharged. The brain imaging techniques employed, namely brain MRI (magnetic resonance imaging) and MRA (magnetic resonance angiography), did not reveal any pathological findings. Additionally, the patient's headache was successfully alleviated with the administration of sumatriptan. The patient underwent evaluation by a rheumatologist, who provided reassurance and recommended against pur-

suing additional treatment.

Eleven months following the initial occurrence, the patient continues to exhibit a state of wellness and has reported no symptoms. Consequently, there is no need for additional therapy, and a subsequent follow-up plan will be implemented.

7. Discussion

This case study presents a middle-aged male patient with abdominal pain likely consistent with polyarteritis nodosa (PAN). The patient experienced pain in the right upper quadrant and right flank region, without other urinary symptoms or systemic manifestations. CT angiography and PET CT scans confirmed the diagnosis after ruled out other causes. Immunological tests showed weakly positive results for anti-nuclear antibodies. The patient had spontaneous remission with no further relapses on a one-year follow-up.

PAN is an acute multisystem disease with a brief prodrome and can range from affecting a single organ to causing catastrophic failure of multiple viscera. Early administration of immunosuppressive medications can reduce the likelihood of aneurysm development, comorbidities, and mortality rates.

Symptoms and indicators of gastrointestinal involvement are often vague and include abdominal discomfort (which may be postprandial), nausea, and vomiting (with or without evident gastrointestinal bleeding). Cholecystitis, hepatic infarction, pancreatic infarction, and intestinal infarction are among the rare yet dangerous consequences of PAN.

Renal involvement occurs in around 60% of patients with PAN. Pain in the flank is possible. Hypertension and renal failure are both possible outcomes of ischemic alterations to the glomeruli and vasculitis of the renal arteries. Dialysis may be necessary for a marginal subset of patients [5]. Early administration of immunosuppressive medications has been shown to lessen the likelihood of aneurysm development, decrease the occurrence of related comorbidities, and lower mortality rates in comparison to delayed treatment [6].

The utilization of computed tomography (CT) and magnetic resonance imaging (MRI) angiograms is imperative in bolstering the diagnostic process of polyarteritis nodosa (PAN), as these imaging techniques effectively illustrate the presence of aneurysms or stenosis within medium-sized muscular arteries, with a particular focus on the renal and mesenteric vasculature. The computed tomography (CT) scan results in patients with polyarteritis nodosa (PAN) exhibit nonspecific manifestations. These include the thickening of the bowel wall, engorgement of blood vessels, haziness observed in the mesentery, presence of ascites, dilatation of the ureter, infarctions in the renal, hepatic, and splenic regions, as well as the occurrence of a perinephric hematoma [7].

Fortunately, the patient did not necessitate any immunosuppressive or corticosteroid therapy. Our strategy entails maintaining ongoing surveillance on the subject and intervening whenever needed.

8. Conclusion

To summarize, we present a case of polyarteritis nodosa (PAN) in which the patient experienced spontaneous remission. The individual did not require any treatment, and no additional relapses occurred during the one-year follow-up period. It is worth noting that there are very few cases reported in the literature documenting spontaneous remission of PAN.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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