

Case Report:**An elderly man with multiorgan involvement – a diagnostic challenge**K. Arun,¹ A. Krishnamurthy,¹ R. Naik,¹ M.T. Sylvia,² S. Chandragiri,¹ T. Kadiravan¹*Departments of ¹Medicine and ²Pathology, Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry***ABSTRACT**

The diagnostic considerations in acute onset illness with multiorgan involvement typically include infectious diseases and at times, systemic vasculitides. We report an elderly man that presented with transient heart block, renal failure, and bicytopenia. Following a short-lasting initial clinical improvement, he developed a nasal mass, cutaneous nodules, and pericardial effusion in quick succession and succumbed to his illness. We made a final diagnosis of extranodal peripheral T-cell non-Hodgkin's lymphoma. This patient highlights the importance of considering aggressive lymphoma as a differential in patients presenting with unexplained multiorgan involvement.

Key words: *Non-Hodgkin's lymphoma, Multiorgan involvement*

Arun K, Krishnamurthy A, Naik R, Sylvia MT, Chandragiri S, Kadiravan T. An elderly man with multiorgan involvement – a diagnostic challenge. *J Clin Sci Res* 2012;1:35-8.

CASE REPORT

A 70-year old man presented to us with a history of intermittent retrosternal chest pain, breathlessness, and orthopnoea since 1 week. There was no history of decreased urine output, pedal oedema, fever, or productive cough. He was a hypertensive, but he was not on any regular medications. On clinical examination, he had mucosal pallor; his pulse was regular with a rate of 40 beats/min; and the blood pressure was 70/50 mm Hg. The heart and lungs were unremarkable on auscultation. There was no hepatosplenomegaly or lymphadenopathy. An electrocardiogram (ECG) showed complete heart block with a junctional escape rhythm at a rate of 40/min. Blood chemistries were: urea 104 mg/dL; creatinine 1.4 mg/dL; glucose 98 mg/dL; sodium 140 mEq/L; potassium 4.8 mEq/L; calcium 10.4 mg/dL; magnesium 2.1 mg/dL; total bilirubin 0.5 mg/dL; albumin 3.8 g/dL; globulin 3.6 g/dL; aspartate aminotransferase (AST) 587 IU/L; alanine aminotransferase (ALT) 1224 IU/L; alkaline phosphatase 224 IU/L; prothrombin time-international normalised ratio 1.1; creatine phosphokinase (CPK) total 132 IU/L; CPK-MB 5 IU/L; and troponin I - non-reactive.

A temporary transvenous pacing of the right ventricle was done. Suspecting a possible acute coronary syndrome, he was started on low molecular weight heparin and antiplatelet

agents. We also treated him with ceftriaxone and doxycycline for possible infectious causes of hepatorenal dysfunction such as leptospirosis and scrub typhus. His blood counts showed bicytopenia - haemoglobin 9 g/dL; total leucocyte count 39,800/ μ L with a differential of 89% neutrophils, 8% lymphocytes, and 3% eosinophils; platelet count 70,000/ μ L. The peripheral blood smear showed normocytic normochromic red cells, neutrophilic leucocytosis, and reduced platelets; no abnormal cells were seen. A chest radiograph and echocardiogram were normal. Sonographic examination of the abdomen revealed no abnormalities. He tested negative for human immunodeficiency virus and hepatitis B and C infections. A quantitative buffy coat and a rapid test both were negative for malaria; IgM ELISA for leptospira and a Weil-Felix test were also negative.

Following cardiac pacing, his blood pressure improved, and subsequently the renal and liver function abnormalities normalised. The temporary pacemaker was removed after 1 week, and the ECG showed a normal sinus rhythm. However, despite the clinical improvement, the blood counts showed persistent thrombocytopenia with leucocytosis. The leucocyte alkaline phosphatase (LAP) score was 56. We did a bone marrow biopsy, which showed myeloid and megakaryocytic hyperplasia with dysmegakaryopoiesis sug-

Received: 9 January, 2012:

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gestive of myelofibrosis in cellular phase. Since the patient was asymptomatic at that point of time with sufficient blood counts, no specific treatment for myelofibrosis was given.

After 3 weeks of hospital stay, when we were planning to discharge the patient, he complained of nasal stuffiness and generalised bone pains. We did a serum electrophoresis for M-band, skeletal survey, and a radionuclide bone scan; all were normal. An endoscopic examination of the nasal cavity revealed a mass arising from the lateral wall of the left nasal cavity with hypertrophied left inferior turbinate (Figure 1A); a biopsy was taken from the mass. Since the patient had a heart block, renal failure, and a paranasal mass, we considered the possibility of a systemic vasculitis and tested him for anti-neutrophil cytoplasmic antibodies (ANCA), which turned negative. We discharged the patient home awaiting the biopsy report. A week after discharge from the hospital, the patient returned with swelling over left side of his cheek and multiple flesh-coloured indurated subcutaneous nodules and plaques all over the body (Figure 1B,C). Movements of the left eye were restricted. Multiple lymph nodes were palpable in the left posterior triangle and jugulo-digastric group. The jugular venous pressure was elevated, and he had a blood pressure of 110/50 mm Hg with a paradox of 30 mm Hg. Breath sounds were diminished over the base of the left lung. A chest radiograph showed a left sided pleural effusion. There was a massive pericardial effusion with cardiac tamponade on echocardiogram, and ultrasonogram of the abdomen showed multiple paraaortic lymph nodes and ascites. His blood chemistries were suggestive of tumour lysis syndrome with acute renal failure: urea 90 mg/dL; creatinine 4.4 mg/dL; sodium 145 mEq/L; potassium 3.5 mEq/L; calcium 7.8 mg/dL; phosphorus 8.8 mg/dL; and uric acid 10.7 mg/dL.

By now, the nasal biopsy showed a non-Hodgkin's lymphoma (NHL) – extranodal peripheral T-cell type (Figure 1D). Immunohistochemistry revealed positivity for leucocyte common antigen (LCA; CD45) and CD3. Staining for CD5, CD7, CD10, CD20, CD56, cytokeratin, chromogranin, and myeloperoxi-

dase were negative. We inserted a pericardial drainage catheter to relieve the tamponade and started the patient on allopurinol, intravenous hydration, and urinary alkalisation. The patient also underwent two sessions of haemodialysis. Due to the poor performance status of the patient, after stabilisation, we administered two doses of cyclophosphamide along with dexamethasone. However, his general condition and sensorium progressively deteriorated and he succumbed to the illness. Post-mortem biopsies from the subcutaneous swellings and lymph nodes also showed a peripheral T-cell lymphoma.

DISCUSSION

This elderly man initially presented with a picture of multiorgan involvement affecting the heart, liver, and kidneys. However, later it turned out that all derangements were in fact attributable to the haemodynamic compromise resulting from the heart block. Perplexingly, the cause of this cardiac conduction disturbance was not immediately apparent to us. Hence, we empirically treated the patient for acute coronary syndrome and infections such as leptospirosis and scrub typhus, despite a lack of definitive laboratory evidence; and the patient improved clinically. However, soon the disease process started unfolding rapidly in front of our eyes, and the final diagnosis was something we could have hardly surmised at the initial clinical presentation. Peripheral T-cell lymphomas (PTCLs) are a heterogeneous group of generally aggressive neoplasms that often have extranodal involvement. They constitute less than 15% of all NHLs in adults.^{1,2} The current World Health Organization/European Organisation for Research and Treatment of Cancer (WHO/EORTC) classification recognizes nine distinct clinicopathological types of peripheral T-cell NHLs.^{3,4} These are, adult T-cell leukaemia/lymphoma, peripheral T-cell lymphoma (unspecified) (PTCL[unspecified]), angioimmunoblastic T-cell lymphoma, anaplastic large-cell lymphoma, subcutaneous panniculitis-like T-cell lymphoma, cutaneous gamma-

delta T-cell lymphoma, hepatosplenic gamma delta T-cell lymphoma, extranodal NK/T-cell lymphoma (nasal type), and enteropathy-type T-cell lymphoma.

The nasal involvement seen in our patient resembles that of extranodal NK/T-cell lymphoma (nasal type).⁵ The tumour cells, however, were positive for CD3 and negative for the natural killer cell marker CD56. Hence, our patient would be classified as PTCL (unspecified), which is usually a nodal lymphoma. It is commonly seen in Western and Oriental populations, but is comparatively less frequent in India.^{6,7} Patients with PTCL (unspecified) more often have unfavourable characteristics such as B symptoms, elevated lactate dehydrogenase levels, bulky tumour, poor performance status, and extranodal involvement.² T-cell associated antigens such as CD3, CD5, and CD7 are variably

expressed on immunophenotypic analysis, although one of the mature T-cell antigens (CD5 or CD7) is usually lost. Our patient initially presented with heart block and myelofibrosis was evident in the bone marrow. Heart block is a rare, but well-known, presentation of lymphomas due to a direct infiltration of the heart; and it is often reversible with chemotherapy.^{8,9} However, in our patient, the heart block improved without any chemotherapy, and there was no apparent macroscopic infiltration of the heart by the lymphoma. Likewise, myelofibrosis is rare in lymphoid neoplasms. Only a few cases of myelofibrosis secondary to PTCL have been reported in the literature.^{10,11} In conclusion, an aggressive lymphoma should be considered as a differential in patients presenting with unexplained multiorgan involvement. Further, myelofibrosis may rarely be associated with a T-cell lymphoma.

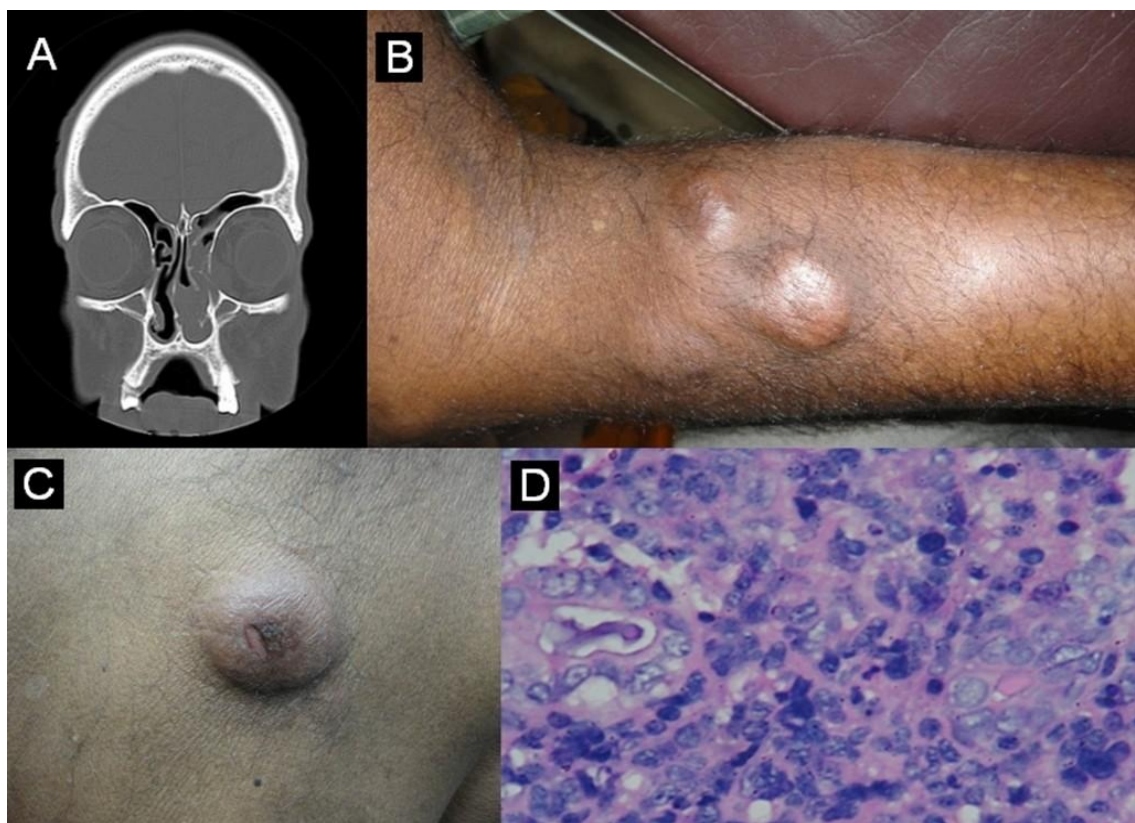


Figure 1: Computed tomographic scan of the paranasal sinuses (coronal section) showing a soft tissue mass in the left nasal cavity (A); multiple subcutaneous nodules over the right leg (B) and left gluteal region (C); and photomicrograph (Haematoxylin and eosin $\times 400$) of the nasal biopsy specimen showing tumour cells infiltrating the nasal mucosa (D).

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