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A Case of Mixed Connective Tissue Disease Presenting with Recurrent Infections

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Abstract
Mixed connective tissue disease (MCTD) is a systemic inflammatory disease affecting connective tissue with the underlying autoimmunological mechanism. The core of MCTD is an appearance of symptoms of several other inflammatory diseases of connective tissue – systemic lupus erythematosus, systemic scleroderma, poly- or dermatomyositis, rheumatoid arthritis at the same time. Here we present a case of 38 year old female who presented with recurrent infections and was diagnosed with mixed connective tissue disease.

Case report

A 38 year old female came with complains of fever and left side facial swelling for 6 days. The facial swelling is associated with pain. She also complained of difficulty in swallowing. She had generalized myalgia, tiredness, running nose and watery discharge from the left eye.

There is loss of weight and appetite for one month. History of recent herpes zoster infection along the T6 dermatome is present. She is not a known diabetic, hypertensive. No history of any seizures, tuberculosis or thyroid abnormalities. There was no significant family history.

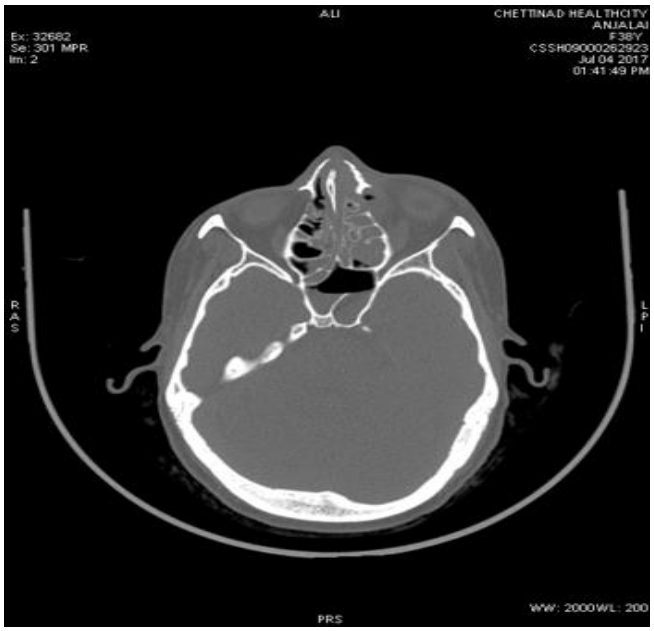
Examination revealed that she had pallor, swelling over left side of face, left eyelid edema, proptosis, congestion of left eye, mucopurulent left sided nasal discharge. Malar rash is present and multiple old herpes zoster lesions (scab) were found along the T6 dermatological distribution. Her pulse was 110/min, regular, normal volume, normal character with no vessel wall thickening and her B.P was 110/ 80 mmHg. She was febrile with a temperature of 101 F

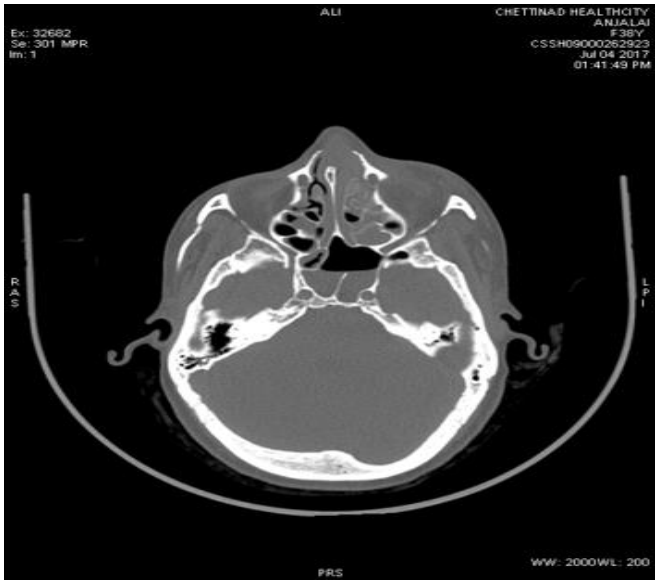
Cardiovascular examination revealed normal heart sounds with an ejection systolic murmur and loud P2 in the pulmonary area. There was apurulent discharge from the umbilicus. On central nervous system examination bilateral pupil normal in size with left pupil reacting sluggishly to light. External ophthalmoplegia of left eye is present. There was decreased sensation over the left half of face. She even had warmth and tenderness over the left half of face.

At this point the differential diagnosis were- left purulent dacrocystitis/ maxillary sinusitis/ cavernous sinus syndrome and patient was further evaluated.

On investigation patient had increased TLC (36,000/cmm with neutrophil predominance). Urine routine showed 8-10 pus cells/HPF and

urine culture sensitivity showed growth of klebsiella species. Culture sensitivity of Wound swab from umbilicus showed moderate growth of pseudomonas aeruginosa. LFT, RFT, blood c/s, serological tests for HIV, hepatitis B were found to be normal. Serum igG and igM are elevated. ENT opinion was obtained for sinusitis and they suggested a CT PNS which showed a subperiosteal abscess in the medial wall of left orbit.





Diagnostic nasal endoscopy (DNE) was done and a biopsy specimen was obtained and sent for HPE. The HPE of biopsy showed chronic inflammatory changes with no signs of granuloma. Patient was discharged as she got symptomatically better.

Five days after discharge the patient again came with complains of low grade fever, vomiting and left eye pain. On examination she was found to be febrile (104 F) with a BP of 80/50 and PR of 126/min.

ENT opinion was obtained and they planned for FESS. Intraoperative pus culture sensitivity showed moderate growth of klebsiella and pseudomonas aeruginosa. Sphenoid sinus fluid culture sensitivity showed klebsiella. She was intermittently febrile. The orbital pain reduced gradually and patient became symptomatically better after starting on appropriate antibiotics. As the patient had pulmonary hypertension HRCT chest was done which showed nonspecific interstitial lung disease pattern. As the patient is having recurrent infections and pulmonary hypertension connective tissue disease was suspected and we sent an ENA profile, the results of which are shown in the table below.

ANA	3+ pattern
ENA profile	
SSS-RO	**POSITIVE (176.15) >20**
SSS La	**Negative**
Sm IgG	**Positive**
RNP – Sm IgG	**Positive**
JO 1	**Negative**
Scl 70	**Negative**

Finally a diagnosis of mixed connective tissue disease with recurrent infections was made. As per kasukawa diagnostic criteria our patient had- presence of Anti U1 RNP, swollen fingers among the common symptoms, polyarthritis among the SLE like symptoms, sclerodactyly and pulmonary fibrosis among the scleroderma like findings.

Discussion

Mixed connective tissue disease (MCTD) is a rare connective tissue disease with autoimmune background. The disease was described more than 40 years ago by Sharp *et al.* The incidence of this condition is about 2.7 per 100,000[1]. Females are more frequently affected[2].

Clinical Picture

Symptoms of MCTD usually develop gradually over a few years. The primary clinical features are

Raynaud's phenomenon, swollen fingers ("sausage digits") or diffuse swelling of hands, arthralgia with or without arthritis, gastro esophageal reflux or esophageal dysmotility, sclerodactyly, myalgia or inflammatory myopathy. Additional features might include: rashes, alopecia, anemia, leucopenia, lymphadenopathy, secondary Sjogren's syndrome, trigeminal neuralgia as well as mild fever and fatigue[1-4].

MCTD lung disease may lead to breathing difficulties caused either by pulmonary hypertension or by causing lung inflammation and scarring in and around the air sacs (interstitial lung disease).

All three layers of the heart may be involved in MCTD. Pericarditis is the commonest clinical manifestation of cardiac involvement

The absence of severe renal disease is a hallmark of MCTD[5]. However, some degree of renal involvement occurs in about 25 percent of patients. Membranous nephropathy is the most common finding

The most frequent CNS manifestation is a trigeminal nerve neuropathy. Headache is also common. Sensorineural hearing loss can occur in about 50% cases of MCTD.

Hypergammaglobulinemia, circulating immune complexes, hypocomplementemia and high titer of specific antibodies are the laboratory abnormalities observed in MCTD

Diagnostic Criteria

Kauskawa et al.[9]

Common signs	Mixed Signs	Diagnosis
1. Anti-RNP Ab positive or swollen hands or fingers 2. Raynaud's Phenomenon	1. SLE-presenting symptoms a. Polyarthritis b. Facial erythema c. Leukopenia or thrombocytopenia d. Lymphadenopathy e. Pleuritis or pericarditis 2. PM-presenting symptoms a. Myogenic pattern on EMG b. Muscle weakness c. Increased muscle enzymes serum levels (CPK) 3. SSc-presenting symptoms a. Pulmonary fibrosis, diffusion capacity reduced or restrictive changes of lung b. Sclerodactyly c. Dilation or hypomotility of esophagus	Positive anti-RNP Ab plus test and one or more of the common signs or mixed signs of at least 2 of the 3 disease categories

Treatment

MCTD can be effectively treated by systemic steroids and immunosuppressive drugs: methotrexate, cyclosporine, mycophenolate mofetil, azathioprine and chloroquine. Immunoglobulins, cytotoxic agents like cyclophosphamide or biologic drugs can be administered in refractory cases or in severe clinical conditions. Plasmapheresis might also be a therapeutic option, especially when it is combined with agents that can block production of pathogenic autoantibodies, like rituximab which is a monoclonal antibody anti-CD20 and modulates the disease activity.

Conclusion

Usually in patients with recurrent infections we suspect immunocompromised states like diabetes, HIV. But a detailed examination and workup would reveal other causes (like mixed connective tissue disease in this case).

References

1. Puszczewicz M. Mieszana choroba tkanki łącznej. In: Puszczewicz M, editor. Wielka Interna. Reumatologia [Polish] Warsaw: Medical Tribune Polska; 2010. pp. 157–62
2. Swart JF, Wulffraat NM. Diagnostic workup for mixed connective tissue disease in childhood. Isr Med Assoc J. 2008;10:650
3. Hoffman RW, Maldonado ME. Immune pathogenesis of mixed connective tissue disease: a short analytical review. Clin Immunol. 2008;128:8–17.
4. Ortega-Hernandez OD, Shoenfeld Y. Mixed connective tissue disease: an overview of clinical manifestations, diagnosis and treatment. Best Prac Res Clin Rheumatol. 2012;26:61–72.
5. Sharp GC, Irvin WS, Tan EM, et al. Mixed connective tissue disease--an apparently distinct rheumatic disease syndrome associated with a specific antibody to an extractable nuclear antigen (ENA). Am J Med 1972; 52:148.