Unusual association of diseases/symptoms

A 27-year-old man with diplopia, fatiguable ptosis and rash: a rare presentation of angiocentric T cell lymphoma with lymphomatoid vasculitis

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Summary

A 27-year-old man presented with a 36-h history of ptosis and diplopia and a 10-day history of a lower limb rash. Skin biopsy revealed an aggressive angiocentric $\gamma\delta$ -T cell lymphoma. The patient's symptoms and signs disappeared within 1 week of commencement of chemotherapy and there are plans for allogeneic stem cell transplantation.

BACKGROUND

Primary cutaneous $\gamma\delta$ -T cell lymphoma is a rare aggressive variant of peripheral T cell lymphomas with only 40 cases described in the literature.^{1–9} There are few reported cases of angiocentric lymphoma involving the cranial nerves. This case report is important from many viewpoints: primary cutaneous angiocentric $\gamma\delta$ -lymphoma is a rare lymphoma; skin biopsy histology revealed evidence of an infiltrating neoplastic lymphomatoid vasculitis; this same process more than likely caused perineural vascular inflammation resulting in the neurological presentation; and the patient actually presented with ptosis and diplopia. Our case is rare and instructive in that our patient had both cutaneous and neurological signs at presentation.

CASE PRESENTATION

A previously healthy 27-year-old man presented with a 36-h history of ptosis, diplopia and a 10-day history of a sparse predominantly lower limb rash. The patient woke up the day before admission with a feeling of pressure behind his right eye. This was followed the next day by right-sided ptosis. He complained of double vision on looking to the right and upwards and a transient burning sensation of the right side of his face and right ear. He described feeling dizzy when walking but reported no problems with speech, swallowing or muscle weakness. Further full review of systems was negative (eg, no fever, pruritus, weight loss or sweating). Social and family history were non-contributory. Physical examination did not reveal lymphadenopathy or organomegaly. Examination revealed bilateral fatiguable ptosis with normal eye movements but diplopia on right lateral and upward gaze. There was no pupillary involvement. There was no fatiguable bulbar/trunk/limb muscular weakness or focal lateralising signs. He had vasculitic-type skin lesions below the knees bilaterally with one lesion on each forearm (figure 1).

INVESTIGATIONS

Full blood count (FBC), differential white cell count and all blood/urine tests were normal. Serologic and blood workup for infectious diseases, connective tissue diseases and systemic vasculitis were negative. CT of thorax/abdomen/pelvis, MRI of the brain with gadolinium, tensilon test, single-fibre electromyography/repetitive nerve stimulation, and antiacetylcholine receptor, antimuscle-specific-kinase, antivoltage-gated-calcium-channel and paraneoplastic antibodies were negative. Cerebrospinal fluid analysis including cytology was normal. Lower limb skin biopsy (figure 2) revealed a very rare primary cutaneous angiocentric T cell lymphoma ($\gamma\delta$ variant) with lymphomatoid vasculitis. Immunohistochemical staining of the lymphocytes was strongly positive for T cell markers, CD2, CD7, CD3 and CD43, but negative for B cell markers, CD20 and CD79a. There was double negativity for CD4 and CD8. This combination of histological and immunohistochemical findings is highly suggestive of an angiocentric $\gamma\delta$ variant of T cell lymphoma with associated lymphomatoid vasculitis. Bone marrow biopsy confirmed lymphomatous involvement.

DIFFERENTIAL DIAGNOSIS

The differential diagnosis included myasthenia gravis, a systemic vasculitis, infectious causes, inflammatory causes and neoplastic/paraneoplastic processes.

TREATMENT

Hyper-CVAD chemotherapy (ie, cyclophosphamide, vincristine, adriamycin, dexamethasone) was commenced.

OUTCOME AND FOLLOW-UP

Within 1 week of commencing chemotherapy, diplopia, ptosis and skin lesions had resolved completely. Chemotherapy is ongoing with plans for an allogeneic stem cell transplantation.

Figure 1 Right ankle vasculitic-type skin lesions.

Figure 2 Skin biopsy (ankle lesion) showing lymphomatoid infiltrative process (bottom blue arrow), a thrombosed vessel (top blue arrow) and necrosis (yellow arrow).

DISCUSSION

Peripheral T cell lymphomas are uncommon neoplasms and account for approximately 12% of all lymphoid tumours worldwide.⁹ Primary cutaneous $\gamma\delta$ -T cell lymphoma is a rare aggressive variant of peripheral T cell lymphomas with

at most no more than 45 cases described in the literature.⁴⁻⁹ This variant accounts for less than 1% of all cutaneous T cell lymphomas with a median age of presentation of 54 years (range 13–82 years) and a male:female ratio of 16:7.⁷⁻⁹ There are few reported cases of angiocentric lymphoma involving

the cranial nerves.^{1–3} Two distinct $\gamma\delta$ -T cell lymphoma entities are recognised: hepatosplenic T cell lymphoma and primary cutaneous $\gamma\delta$ -T cell lymphoma as seen in this case. Angiocentric T cell lymphoma may present with a broad variety of cutaneous manifestations including papules, nodules and ulcerated tumours and may masquerade as a cutaneous vasculitis both clinically and pathologically.⁵ The skin biopsy showed an infiltrating lymphomatoid vasculitis causing perineural vascular inflammation. A likely explanation for this patient's presentation is that the same lymphomatoid vasculitic pathology occurred in his cranial nerves with direct perineural involvement of the superior divisions of both third nerves (preferentially affecting some fascicles) and other cranial nerves as well, that is, right-sided sixth and fifth nerves (the latter causing facial dysaesthesia).^{1 3 6} The prognosis of patients with angiocentric T cell lymphoma is poor with reported median survival of 15 months.^{7 8}

Learning points

- ▶ Clinicians should remain cognizant of the fact that rare T cell lymphomas can present without a history of fever, weight loss or sweating.
- ▶ Cutaneous T cell lymphomas can present with a normal FBC and differential white cell count.
- ▶ Cutaneous T cell lymphomas can present without lymphadenopathy or organomegaly.
- ▶ Although this patient's reason for presenting was neurologic, the diagnosis was made by a skin biopsy of lesions found by the admitting doctor on routine admitting physical examination. An important take home message here is that clinicians should always carry out a full physical examination when admitting/assessing patients.
- ▶ Fatiguable ptosis does not always indicate myasthenia gravis. Clinical context is the key. Even before workup for such a neuromuscular disorder is done, the symptoms and signs could point towards an alternate diagnosis (eg, the skin rash was a pivotal finding in this case).

Competing interests None.

Patient consent Obtained.

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