Hereditary angioneurotic oedema: a neglected diagnosis

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SUMMARY A case of hereditary angioneurotic oedema, which was only diagnosed after presentation to several hospital departments, is reported. It was then discovered that the mother of the patient had the same condition but that, unusually, it appeared to have been in remission for more than 20 years. This disease, due to C₁ esterase inhibitor deficiency, is potentially fatal but easily treatable. The diagnosis is often missed.

Case report

A 22 year old hairdresser was referred by her general practitioner, with a suggested diagnosis of upper limb lymphoedema. She gave an eight year history of intermittent spontaneous swelling of her hands—usually unilateral but more or less with equal left or right distribution. She had not noticed precipitating trauma. There was some discomfort associated with the swelling. Episodes had initially been at least six months apart and lasted two to three days. More recently, the swelling was occurring every two to three months. The episodes were not affected by, or associated with, weather, menses, activity or starting the oral contraceptive pill. She suffered from no known allergies. She was unaware of similar symptoms in other family members.

She had been investigated one year previously by an orthopaedic surgeon who found no clinical abnormality and x-rays of her cervical spine and thoracic inlet yielded normal results. We also found nothing abnormal on clinical examination.

An isotope lymphangiogram, performed to exclude lymphoedema, also yielded normal results. Investigations included a request for serum C₁ esterase inhibitor (C₁ INH) activity to exclude the possibility of hereditary angioneurotic oedema. Serum C₁ INH was 0.06 g/l (normal range 0.15–0.35 g/l) with an activity of less than 100 U/ml; (normal range 50–150 U/ml), compatible with this diagnosis. The result was received after she had been discharged.

She did not attend for follow up for one year, refusing to come because she had no further symp-

toms, but she was eventually reviewed with her mother. Her father was dead, her mother had no surviving siblings, and both grandparents had been dead for 30 years. The mother recollected similar episodes of hand swelling and also gave a history of intermittent vomiting and abdominal pain between the ages of 15 and 25 years, but interestingly, she had been asymptomatic for over 20 years.

The serum C₁ INH of the mother was also low at 0.1 g/l, with a functional assay of zero U/ml. Repeated serum C₁ INH of the daughter was 0.07 g/l, with a functional assay of zero U/ml. Thus the diagnosis of hereditary angioneurotic oedema was confirmed in both mother and daughter: both remained asymptomatic three years later.

Discussion

In the 24 years since C₁ esterase inhibitor deficiency has been recognised¹ and linked with the clinical entity of hereditary angioneurotic oedema there have been several series and case reports published which have drawn attention to this disorder.²

It is the most common genetically determined disorder of the complement system, with a high mortality—up to 33%.³ Patients may present with recurrent oedema of the extremities, episodes of gastrointestinal disturbances, and oropharyngeal obstruction either alone or in any combination.¹ Symptoms, however, may now be controlled efficiently with danazol.⁴

This case report shows that the diagnosis of the condition is still neglected. The patient presented with a typical history first to her general practitioner, then

to an orthopaedic clinic, and finally to a unit specialising in lymphoedema.

The disease course of the mother was unusual. There have been reports of relatives of patients with this abnormality always being asymptomatic.⁵ There have also been reports of relatives only developing the symptoms in the sixth decade.⁶ We cannot find a documented case of an adolescent with severe symptoms going into remission clinically for over 20 years, despite having such an abnormal serum C₁ INH value and low functional activity. The daughter seems to have followed the same disease course. We are at a loss to explain the enigma of the lengthy remission in the absence of functional C₁ esterase inhibitor.

The high mortality associated with this treatable disorder makes it imperative that clinicians of all specialities consider it in patients presenting with unexplained swelling of the extremities, oropharynx, face or abdominal pain.

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References

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