Immunology referral for patients with symptoms of angioedema

Are there other features of an IgE mediated allergic reaction?

- Is there a suspected allergen (IgE mediated reactions occur shortly after allergen exposure)?
- Reactions will occur on repeat exposure
- Is the patient symptom free on avoiding the suspect allergen?

If a diagnosis of an IgE mediated allergic reaction is suspected:

- Refer to Immunology (please note paediatric patients should be referred to their local paediatric team)
- Advise the patient to avoid the suspect allergen (s), if known, and provide the patient with a rescue plan for management of subsequent reactions if accidental re exposure occurs. This will include anti histamines and an adrenaline auto injector. **The decision on whether to prescribe an adrenaline auto injector will depend on severity of the reaction, ease of avoidance of the suspect allergen, co morbidities associated with increased risk of a reaction (asthma), and individual patient preference**
  Epipen and Jext websites contain portals for both health care professionals and patients
  www.epipen.co.uk
  www.jext.co.uk
- If there is uncertainty on the need for an adrenaline auto injector, clinical advice for this and any other queries relating to your patient can be obtained in one of the following ways:
  - Contact the Immunology service via RVH switchboard; our A&C staff will arrange for a member of the medical team to respond promptly to your query
  - State clearly on the referral letter that you require advice only, or wish for advice pending an outpatient consultation
- Specific IgE can be sent to the Regional Immunology laboratory for most of the common allergens

Is the patient having recurrent angioedema with no clear trigger?

1. Measure C1 inhibitor to exclude C1 inhibitor deficiency (hereditary angioedema). This usually presents with unexplained episodes of swelling in late childhood/early-teenage years. An acquired form of C1 inhibitor deficiency can occur and often affects older patients.

A clotted blood sample should be sent to the Immunology laboratory, RVH to measure a functional **C1 inhibitor level**. This should reach the lab within 24 hours of venepuncture. A normal or raised C1 inhibitor function excludes C1 inhibitor deficiency (hereditary angioedema).

2. Is the patient on an angiotensin converting enzyme inhibitor (ACEI)?

   ACEI can cause potentially life threatening (bradykinin-induced) angioedema and **therefore the ACEI should be stopped and substituted with a suitable alternative.** The risk of angioedema associated with angiotensin receptor blockers (ARB) is less and so these can be considered, if required for cardio/renal protective effects, ensuring the risk/benefit ratio and side effects are discussed.

   ACEI induced angioedema can occur months to years after commencing treatment. Unlike IgE mediated allergic reactions, swelling does not necessarily occur quickly after drug consumption. In some patients, it may take months to resolve despite drug withdrawal.

3. If the patient is having recurrent episodes of angioedema which are recurrent and unexplained; the most likely explanation is **chronic spontaneous angioedema.** Swelling often affects lips, tongue, face, and periorbital areas, but can occur at any site. Most patients are anti histamine responsive. Patients may have associated urticaria. Symptoms can be triggered by an inter-current infection, and will usually resolve as the infection clears.

We suggest the following treatment pathway for chronic spontaneous angioedema:

- Commence a non-sedating antihistamine. In some patients up to four times the recommended age adjusted dose per BNF/BNFC may be required; e.g. cetirizine 10 mg four times daily (adults), or fexofenadine 180 mg four times daily (adults). Incremental up dosing of antihistamines is recommended depending on clinical response.
- If there is inadequate control, consider the addition of a leukotriene receptor antagonist e.g. montelukast.
- If the patient is taking an angiotensin converting enzyme inhibitor (ACEI), please stop it and substitute with a non-ACEI alternative (see point 2).

The severity of symptoms may fluctuate, and spontaneous remission may occur at any time. The necessity of continued treatment should be periodically evaluated e.g. every 3 months.

Once symptom control is achieved, reduce antihistamines gradually. Long-term treatment may be required in some patients. Higher doses of antihistamines are unlicensed but in our experience are well tolerated, and have been recommended in national guidelines on chronic spontaneous urticaria/angioedema.

If symptoms do not respond to the above treatment ladder, please re-refer, detailing treatment to date and any additional features in the referral. We would be happy to discuss the case if required. Immunology contact number 028961 50088.

1. Powel RJ, Leech SC, Till S et al. BSACI guideline for the management of chronic urticaria and angioedema: Clin.Exp.Allergy. 2015;45:547-565
2. Zuberbier T, Aberer W, Asero R et al. EAACI/GA2LEN/EDF/WAO guideline for the definition, classification, diagnosis, and management of urticaria: the 2018 revision and update: Allergy 2018;73:1393-1414