Anaphylaxis

Anaphylaxis is a severe, life-threatening generalised or systemic hypersensitivity reaction.

It is characterised by **rapidly developing** respiratory/breathing problems along with skin or mucosal changes. Main signs are utricaria (hives), angiodema, flush, pruritis without rash.

Pathology - Anaphylaxis is a type 1 IgE mediated hypersensitivity reaction. The release of histamine and other agents causes capillary leak, wheeze, cyanosis, oedema, and utricaria. There is a direct release of mediators without involving antibodies.

It can be **immunologic** (IgE mediated) or **non-immunologic** (mast cell degranulation without the involvement of antibodies e.g vancomycin, ACE-I, codine). Both cause the release of inflammatory mediators such as histamine, tryptase and prostaglandins.



These all cause bronchospasms, increase capillary permeability and decrease vascular tone.

Phaeochromocytoma can mimic the signs of an anaphylactic shock.

History – the patient may have been exposed to bee stings, nuts, seaf to be drugs

• They have a history of dizziness, wheeze and free a swilling with a PMH of an allergy.

Examination – they will have signs of at a cedema, tachycarcia, studor (due to laryngeal oedema), bronchospasms and will show e hypOtensive.

• Priere may also be skin changes such as utricaria and puritis.

Immediate management – the first thing is to ensure the airway is clear and to establish a large bore IV access

- Then give Oxygen 35%, unless they are hypoxic in which case give 100%. Keep an eye on their cardiovascular observations
- Administer **0.5mg Adrenaline** intramuscularly and **repeat** after 5 minutes if still **hypotensive**. If on a Beta Blocker consider salbutamol instead of adrenaline
- Follow with administration of an antihistamine (10mg chlorphenamine IV)
- Then give hydrocortisone 100mg IV

Further management – for bronchospasms consider giving salbutamol 2-2.5mg nebulised or IV. For continuing bronchospasms give aminophylline infusion.

- Measure mast cell tryptase 1-6h after suspected anaphylaxis and suggest an IgE skin prick test to show specific allergens to avoid. Mast cell tryptase is released by mast cells. It peaks at 1-2 hours and has a short half life.
- 20% of people have a second phase reaction