Case study - investigation of anaesthetic reactions

**Presentation:**
- 65 year old lady
- Previous GA x 3 (uneventful)
- GA for lumpectomy
- Fentanyl, propofol, lignocaine, suxamethonium
- Marked bradycardia, brief period asystole
- Resuscitated
- No rash but some tongue & facial swelling
- ECG - acute anterior MI

**What do we need to find out?**
- Has an ‘allergic’ reaction occurred?
- Anaphylaxis or anaphylactoid reaction?
- What is the causative agent?
- What are the potentially cross reactive drugs?
- Are there any ‘Safe’ alternatives?

**Questions to ask**
- What blood tests would you recommend in this lady?
- What investigations would you do in suspected anaesthetic reactions in general?

**Laboratory blood test results**

<table>
<thead>
<tr>
<th>Tryptase Measurements</th>
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<tbody>
<tr>
<td>µg/l</td>
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<tr>
<td>0 1 hr 24 hrs</td>
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- Tryptase result
- Cut Off

<table>
<thead>
<tr>
<th>Laboratory blood test results</th>
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<tbody>
<tr>
<td>Specific IgE antibody levels</td>
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<tr>
<td>Allergen</td>
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<tr>
<td>Suxamethonium</td>
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<tr>
<td>Latex</td>
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*Less than 0.35 is considered negative*

**Question**

**Skin prick testing results**
- 7mm weal with suxamethonium
- 2-3 mm weal with atracurium & mivacuronium
- Negative to latex, fentanyl, propofol & other muscle relaxants

**Diagnostic summary**

- The raised tryptase confirms that a mast cell degranulation event, either anaphylactic or anaphylactoid, has occurred.
- The raised IgE and positive skin test to suxamethonium indicates a diagnosis of IgE mediated anaphylaxis to suxamethonium.
- Positive skin tests to atracurium and mivacuronium suggest cross reactivity and indicate that these drugs should be avoided in future.
- Negative skin prick test results against other muscle relaxants identifies suitable (or safer) alternatives for future use.

*This case study is reproduced with the kind permission of Moira Thomas, Consultant Immunologist, Western Infirmary, Glasgow.*