**Heparin-induced thrombocytopenia (HIT): Diagnosis and management (adults)**

Thrombocytopenia is a well-recognized complication of heparin therapy, including low molecular-weight heparin (LMWH). Patients with a diagnosis of HIT should receive alternative forms of anticoagulation.

**Clinical Presentation of HIT**

► Patients receiving any form of heparin should have baseline monitoring of platelets
► Post-operative patients and cardiopulmonary bypass patients who have been exposed to heparin in the previous 100 days and are receiving any type of heparin should have a platelet count determined 24 hours after starting heparin
► Consider HIT if any of the following occurs between days 4 and 14 of heparin therapy (or earlier if patient has had previous exposure to heparin):
  1. Platelet count falls by 30% or more
  2. Patient develops new thrombosis while on heparin
  3. Patient develops skin allergy to heparin

If HIT is suspected a clinical assessment should be completed using the 4Ts scoring system below:

<table>
<thead>
<tr>
<th>4Ts scoring system</th>
<th>Score</th>
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<tbody>
<tr>
<td>Thrombocytopenia</td>
<td>2&lt;br&gt;&gt;50% fall AND platelet nadir &gt;20x10⁹/l</td>
</tr>
<tr>
<td>Timing of platelet fall</td>
<td></td>
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<tr>
<td>Clear onset 5-10 days post heparin start OR &lt;1 day if previous exposure in previous 30 days</td>
<td>Fall coincides with heparin but no clear timing relationship (e.g. missed platelet counts) OR Onset of thrombocytopenia after day 10 OR fall in less than 1 day if previous heparin exposure was 30 to 100 days ago</td>
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<tr>
<td>Thrombosis or other sequelae</td>
<td>New thrombosis OR skin necrosis OR post-heparin acute systemic reaction</td>
</tr>
<tr>
<td>Other cause for thrombocytopenia</td>
<td>No other cause present</td>
</tr>
</tbody>
</table>

► The 4Ts score indicates the probability of HIT:  
  - Score 6-8 = **High** probability  
  - Score 4-5 = **Intermediate** probability  
  - Score 0-3 = **Low** probability
**LOW PROBABILITY SCORE**

No further investigation is required for low probability score and HIT diagnosis can be excluded.

**INTERMEDIATE OR HIGH PROBABILITY SCORE**

If the probability of HIT is intermediate or high:

1. Stop UFH or LMWH
2. Consider reversing warfarin if prescribed → Prescribe STAT phytomenadione
3. Send HIT screen (antigen assay)
   - A Positive HIT screen confirms a diagnosis of HIT.
   - Intermediate 4Ts score & a negative HIT screen – HIT diagnosis can be excluded.
   - High 4Ts score & a negative HIT screen – discuss further investigation with consultant haematologist
4. Start treatment with alternative anticoagulation (do not wait for HIT screen result).
   - Contact haematology for advice about drug choice.

If HIT is confirmed inform the patient of the diagnosis and the need to avoid heparin in the future. Make a record of the HIT diagnosis in the notes and on the allergy sections of the electronic prescribing system.

**Anticoagulation in patients with acute HIT or a previous history of HIT**

- Avoid heparin (both unfractionated and low molecular weight heparin)
- Discuss management with the on-call consultant haematologist
- Drug choice will depend on the indication for anticoagulation, patient variable factors, and drug availability.

For further information consult the summary of product characteristics for individual drugs available at [www.emc.medicines.org.uk](http://www.emc.medicines.org.uk)

**Reference**