Lightning Strikes Twice

Anton Wj and AnWj
1985

- FDA approves 1st AIDS test
- Route 66 officially decommissioned
- Rainbow Warrior bombed and sunk
- John Howard became opposition leader
- Windows ver 1.0 released
- Michael Phelps & Keira Knightly born
June 1985 Mr T

- NHL patient on CHOP with scleroderma
- Low Hb
- XM incompatible due to weak antibody
- Reference lab suggest a HTLA antibody
- Active at $37^\circ$ C in AHG titre 32 but not strong
# Lympocyte Surface Markers Report (FacS II)

**Name:** Wallace  **Date Received:** 08/08  **Reported:** 08/08

**Specimen:** Blood  **Ward:** Ryan  **Diagnosis:** Scleroderma, polymyositis

**Record Number:** 864/08

<table>
<thead>
<tr>
<th>Label</th>
<th>Test Results</th>
<th>Fluorescent Intensity</th>
<th>Normal Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B Lymphocytes</strong></td>
<td><strong>Surface Immunoglobulin</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Stg</td>
<td>58</td>
<td>%</td>
<td>No./μl</td>
</tr>
<tr>
<td>IgG</td>
<td>56</td>
<td>%</td>
<td>No./μl</td>
</tr>
<tr>
<td>IgM</td>
<td>52</td>
<td>%</td>
<td>No./μl</td>
</tr>
<tr>
<td>IgA</td>
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<td>No./μl</td>
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<tr>
<td>IgD</td>
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<td>%</td>
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<tr>
<td>IgE</td>
<td>46</td>
<td>%</td>
<td>No./μl</td>
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<tr>
<td><strong>Blasts/Other</strong></td>
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</tr>
<tr>
<td><strong>Mono B</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>T Lymphocytes</strong></td>
<td><strong>Surface Immunoglobulin</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OKT - 3 Total Mature</td>
<td>20</td>
<td>%</td>
<td>No./μl</td>
</tr>
<tr>
<td>OKT - 4 Helper</td>
<td>11</td>
<td>%</td>
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<tr>
<td>OKT - 8 Suppressor/Cytotoxic</td>
<td>14</td>
<td>%</td>
<td>No./μl</td>
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**Other Designation**

<table>
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<th>Test Results</th>
<th>Fluorescent Intensity</th>
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<tbody>
<tr>
<td>Drs</td>
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<td>%</td>
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<tr>
<td>Gent</td>
<td>5</td>
<td>%</td>
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<tr>
<td>Anti-M</td>
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<td>%</td>
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<tr>
<td>Myeloid Markers</td>
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<td>%</td>
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<tr>
<td>LEU 7 Natural Killer Cells</td>
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<td>%</td>
</tr>
<tr>
<td>LEU 11 Platelet/Megakaryocyte</td>
<td>3</td>
<td>%</td>
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</table>

**Comments:** Marked T-lymphocytopenia, affecting both subsets - this may reflect cytotoxic chemotherapy. No evidence of monoclonal B lymphoproliferation.
Patient Transfused in day procedure area

- Acute febrile reaction after 100 mls
- Profound peripheral vasospasm and cyanosis (scleroderma exacerbates)
- Transfusion stopped immediately
- BP ↑ 160/105 pulse 120
- Pt required Cortisone, Phenergan & Vasodilators
- Collect post transfusion samples
Who can you recognise in 85
Bugger

- Patient not keen on further transfusions
- Trans. reaction investigation, auto definitely negative
- Look for a compatible donor within the family
- 2 brothers and 2 sisters
Back to the drawing board
samples sent to overseas reference labs

- August 6th Gamma Houston John Moulds
  Ab non reactive with all Lu(a-b-) ? high incidence para Lutheran
  antibody. Note patient is KK and may make anti Cellano

- Aug 12th Houston, Ab is extremely high incidence and Mr T’s cells
  negative with anti-Lu11, Lu15 and Wj

- Oct 4th MRC ref lab U.K. Geoff Daniels & Pat Tippet. Mr T negative with
  5 examples of anti-Anton.

- Oct 17th New York Blood center W. L. Marsh Confirm pt is Wj- but
  siblings are Wj+
What does this mean

• England calls it Anton the U.S.A. call it Wj
• Anti-Wj first reported was an auto
• Ag is suppressed by the inhibitor gene in the Lutheran system
• None of his siblings are compatible
• Not a good idea to transfuse
Compromise AnWj

- Lu(a-b-) reported 1971
- Haemolytic auto ab to high incidence Lutheran ag reported 81
- Poole et al report Anton 1982
- Tippet et al produce monoclonal ab
- ISBT working party called Anton
- Presented at ISBT in Sydney in 1986
What happened

• Alfred presented case with Marsh on one side Tippet on the other

• Mr T monitored

• CHOP ceased and antibody disappeared

• Followed up with red cell survival studies which showed the antibody had gone
In 23 years what’s new

- Case reports of Hodgkin's disease pt’s turn temporarily Wj-negative with alloanti-Wj in his serum
- Anton antigen is RBC receptor for H. Influenza
- If patients with anti-AnWj need transfusion use In(Lu)Lu_{null} cells
- Anti-AnWj (Anton) has been associated with clinically significant hemolytic transfusion reactions
- Only 1 reported case of antigen positive blood being infused without reaction
Just managing to stay afloat