Thrombocytosis: an early marker of cancer in primary care?

Sarah Bailey, Obi Ukoumunne, Elizabeth Shephard, Willie Hamilton. University of Exeter, UK.

What was the aim of this project?
• This project aimed to investigate if thrombocytosis is an early marker of cancer, in patients in primary care (attending their GP surgery).

What is thrombocytosis?
Raised platelet count, in the blood. Normal platelet count: 150-400x10⁹/L. Thrombocytosis: platelet count over 400x10⁹/L.

How did we investigate that?
We used anonymous electronic GP records from the CPRD (Clinical Practice Research Datalink), for two patient groups:

- 40,000 with thrombocytosis
- 10,000 with normal platelet counts

Cancer?
We followed them up for two years from the date of their blood test showing thrombocytosis...

... and compared cancer outcomes in the two groups

What did we find out?
Patients with thrombocytosis had an increased risk of harbouring cancer, compared to those with normal platelet counts.

- Men: 2.5 x increase in risk
- Women: 2 x increase in risk

<table>
<thead>
<tr>
<th></th>
<th>Thrombocytosis</th>
<th>Normal platelets</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPV (95% CI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thrombocytosis PPV (%)</td>
<td>9.8 (9.2-10.3)</td>
<td>3.6 (2.9-4.3)</td>
</tr>
<tr>
<td>Normal platelets PPV (%)</td>
<td>5.3 (5.0-5.5)</td>
<td>2.1 (1.7-2.5)</td>
</tr>
</tbody>
</table>

The risk of cancer increases with age, with the greatest difference between those aged 60-69.

Some cancer sites have a stronger association with thrombocytosis than others...

Which cancers are most likely in male patients with thrombocytosis in primary care? (PPV, 95% CI)

Which cancers are most likely in female patients with thrombocytosis in primary care? (PPV, 95% CI)

What next?
• Further analysis to see how consistently raised platelets affects cancer risk.
• Raise awareness of this marker amongst GPs through dissemination and publication.
• There is the potential to develop an alert system to ‘flag up’ patients with blood test results showing thrombocytosis, and therefore increased cancer risk, to GPs.

The Policy Research Unit in Cancer Awareness, Screening and Early Diagnosis receives funding for a research programme from the Department of Health Policy Research Programme. It is collaboration between researchers from seven institutions (Queen Mary University of London, UCL, King’s College London, London School of Hygiene and Tropical Medicine, Hull York Medical School, Durham University and University of Exeter).

Get in touch! Sarah Bailey: 01392 726445  s.e.r.bailey@ex.ac.uk