SeHCAT as a tool for investigating bile acid malabsorption (BAM) and chronic diarrhoea

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BAM – Bile Acid Malabsorption

Type 1 - Terminal ileal resection or localised disease

Type 2 - Idiopathic/ IBS-D

Type 3 - Cholecystectomy

SeHCAT
Selinium\textsuperscript{75} labelled tauroselcholic acid

Retention of <15\% indicates BAM
Aim

- Prevalence of BAM in those having a SeHCAT study at ASPH
- Identify potential predictors/groups of patients most likely to have BAM
- Identify the role of SeHCAT testing in the pathway of investigating chronic diarrhoea
Methods

- Retrospective single-centre study
- Data extracted from EMR
- SeHCAT July 2014 - July 2015

Data collected
- Demographics
- Timing and results of SeHCAT
- CRP, ESR, B12, faecal elastase, faecal calprotectin
- Endoscopy and radiology findings
- Treatment & Follow up
## Results

<table>
<thead>
<tr>
<th>Patient Demographics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n</strong></td>
<td>212</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>53.7 (±17.7)</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>138 (65%)</td>
</tr>
<tr>
<td><strong>Two Week Referrals</strong></td>
<td>10 (5%)</td>
</tr>
<tr>
<td><strong>Seen by</strong></td>
<td></td>
</tr>
<tr>
<td>Gastroenterologists</td>
<td>85 (40%)</td>
</tr>
<tr>
<td>Colorectal surgeons</td>
<td>127 (60%)</td>
</tr>
<tr>
<td><strong>Bristol stool Type</strong></td>
<td></td>
</tr>
<tr>
<td>1-3</td>
<td>4 (2%)</td>
</tr>
<tr>
<td>4-6</td>
<td>20 (9.4%)</td>
</tr>
<tr>
<td>5-7</td>
<td>142 (67%)</td>
</tr>
<tr>
<td><strong>Frequency of bowel opening</strong></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.7</td>
</tr>
<tr>
<td>SD</td>
<td>4</td>
</tr>
</tbody>
</table>
Results – Positive SeHCAT

SeHCAT
n= 212

Negative
n = 110 (52%)

Positive
n= 102 (48%)

Type 1 BAM
n= 24 (24%)

Type 2 BAM
n= 49 (48%)

Type 3 BAM
n=29 (28%)

Type 1 - Terminal ileal resection or localised disease

Type 2 - Idiopathic/ IBS- D

Type 3 - Cholecystectomy or other miscellaneous causes
Results – Negative SeHCAT

- No organic cause found/IBS 76%
- Diverticulosis 13%
- Pelvic floor pathology 3%
- Radiation proctitis/colitis 4%
- Pancreatic insufficiency 3%
- Cancer 1%
## Results - Predictors of BAM

<table>
<thead>
<tr>
<th>Predictor</th>
<th>BAM (n=102)</th>
<th>No BAM (n=110)</th>
<th>P-value</th>
<th>Positive predictive value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age</td>
<td>52 ± 1.5</td>
<td>54 ± 1.7</td>
<td>0.3234</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>65</td>
<td>73</td>
<td>0.5612</td>
<td></td>
</tr>
<tr>
<td>Cholecystectomy</td>
<td>28</td>
<td>16</td>
<td>0.0399</td>
<td>65%</td>
</tr>
<tr>
<td>Crohn’s</td>
<td>15</td>
<td>2</td>
<td>0.0006</td>
<td>88%</td>
</tr>
<tr>
<td>Terminal ileal resection or right hemicolecctomy</td>
<td>9</td>
<td>2</td>
<td>0.0287</td>
<td>82%</td>
</tr>
</tbody>
</table>
Results - Correlation of serum markers and BAM

No correlation was found between BAM and
- B12
- ESR
- CRP
- Faecal Calprotectin

Pearson's correlation coefficient = -0.07842
p = 0.6260
Results – Mean time to positive SeHCAT

First OPA
n=102

59 weeks (sd ± 24)

76 (75%)

SeHCAT

Colonoscopy or OGD

23 (22%)

CT Scan
Results – Treatment

BAM  
n=102

Cholestyramine  
n=77 (65%)

- Tolerated  
n=61 (60%)

- Not Tolerated  
n=16 (40%)

Lost follow-up/not treated  
n=25 (35%)

- No further Tx  
n=6 (37%)

- Colesevelam  
n=10 (63%)
Summary

- 48% were positive

- PPV for BAM
  - Terminal ileal resection 88%
  - Crohn’s 82%
  - Cholecystectomy 65%

- Similar to other published studies¹,²

- Mean time from 1st OPA to SeHCAT: 1 year

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Conclusions – Role of SeHCAT

- Good yield for BAM (48%)
- SeHCAT should be considered earlier in pathway of investigating chronic diarrhoea
- Obviate the need for invasive tests if performed earlier
- Consistent with NICE guidance for straight to treatment of patients with Crohn’s disease or right hemicolecotomy
Questions