High Definition white light endoscopy versus High Definition with Chromoendoscopy in the detection of dysplasia in long standing ulcerative colitis: A Randomized Controlled Trial.

Noor Mohammed1,2, Prashant Kant2, Faisal Abid2, Olorunda Rotimi3, Padmini Prasad3, John Hamlin2, Simon Everett2, Bjorn Rembacken2, Mark Hull1,2 and Venkat Subramanian1,2.

1 Molecular Gastroenterology, Leeds Institute of Biomedical and Clinical Sciences, St James University Hospital, University of Leeds, 2 Department of Gastroenterology and 3 Department of Histopathology St James University Hospital, Leeds Teaching Hospital NHS Trust, Leeds, UK.

Introduction

Aims and Objective

Aim: To compare the rate of detection of dysplasia in patients with long standing UC with HD WLE and HD CE arms. (ClinicalTrials.gov number NCT02138318)

Inclusion criteria

1. Patients with longstanding (more than 8 years of disease), extensive (extending proximal to splenic flexure) colitis attending for surveillance colonoscopy 2. Patients aged over 18 years of age.

Exclusion criteria

1. Pregnancy, 2. Unwilling or unable to give informed consent 3. Severe active colitis (as assessed by endoscopist)

Endoscopes and Processors

1. Olympus Lucera Spectrum or Elite processors Olympus CFH260 DL or CFH290 DL colonoscopes and HD monitor 2. A Jet wash foot pump system used to clean the mucosa on colonoscope insertion(Endogator or Olympus) 3. 0.2% Indigocarmine dye spray was used on withdrawal using a dye spray catheter 4. Targeted and quadrantic random biopsies from each colonic segment taken from all patients.

Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>HDWLE (n=53)</th>
<th>HDCE (n=50)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Patients with dysplasia</td>
<td>5 (9.4%)</td>
<td>11 (22%)</td>
<td>0.04</td>
</tr>
<tr>
<td>Total number of dysplastic lesions**</td>
<td>6 (all low grade)</td>
<td>14 (1 high grade and 13 low grade)</td>
<td>--</td>
</tr>
<tr>
<td>Mean number of dysplastic lesions</td>
<td>0.12±0.4</td>
<td>0.26±0.6</td>
<td>0.04</td>
</tr>
<tr>
<td>Right sided lesions</td>
<td>2/6</td>
<td>5/14</td>
<td></td>
</tr>
<tr>
<td>Mean withdrawal time (minutes)</td>
<td>13.6±3.3</td>
<td>21.2±5.8</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

** All lesions detected on targeted biopsy

Conclusion

1. HDCE significantly improves the detection of dysplastic lesions in patients with long standing extensive UC undergoing surveillance endoscopy and should be the procedure of choice in these patients.

2. On average it increases procedure time by 8 minutes over HDWLE, but abandoning random biopsies could make up for some of this extra time.

3. Future multi-centre studies involving a diverse group of patient populations and mix of secondary and tertiary care centres are needed to confirm the applicability of these results.

References