Supplementary Material

Supplementary Figure 1. Search Strategy

MEDLINE
1. exp inflammatory bowel diseases/
2. (ibd or inflammatory bowel disease* or crohn* or ulcerative colitis).mp.
3. 1 or 2
4. eosinophils/ or neutrophils/
5. (histologic* or basal plasma* or neutrophil* or granulocyt* or eosinophil* or lymphocyt* or inflammatory cell infiltrat* or crypt abscess* or cryptitis or mucin deplet* or myenteric plex* or lamina propri*).mp.
6. 4 or 5
7. histopath*.mp.
8. 4 or 5 or 7
9. 3 and 6
10. 3 and 8
11. exp hospitalization/
12. exp treatment outcome/
13. exp recurrence/
14. exp colectomy/
15. exp steroids/
16. exp inflammatory bowel diseases/su
17. exp colonic neoplasms/
18. exp death
19. (relapse* or flare* or recurrence* or steroid* or corticosteroid* or remission* or colectom*).mp.
20. 10 and 11
21. 10 and 12
22. 10 and 13
23. 10 and 14
24. 10 and 15
25. 10 and 16
26. 10 and 17
27. 10 and 18
28. 10 and 19
29. exp mortality
30. 10 and 29
31. exp remission induction/
32. 10 and 31
33. 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 30 or 32
34. limit 33 to humans
35. limit 34 to (case reports or comment or editorial or letter or “review”)
36. limit 34 to (case reports or comment or editorial or letter)
37. 34 not 35
38. (outcome or hospitaliz* or hospitalis* or steroid$ or (colon* adj3 (neoplas$ or cancer$))).mp.
39. 10 and 19 and 38
Embase
1. exp inflammatory bowel diseases/
2. (ibd or inflammatory bowel disease* or crohn* or ulcerative colitis).mp.
3. 1 or 2
4. eosinophils/ or neutrophils/
5. (histologic* or basal plasma* or neutrophil* or granulocyt* or eosinophil* or lymphocyt* or inflammatory cell infiltrat* or crypt abscess* or cryptitis or mucin deplet* or myenteric plex* or lamina propri*).mp.
6. 4 or 5
7. histopath*.mp.
8. 4 or 5 or 7
9. 3 and 6
10. 3 and 8
11. exp hospitalization/
12. exp treatment outcome/
13. exp recurrence/
14. exp colectomy/
15. exp steroids/
16. exp inflammatory bowel diseases/su
17. exp colonic neoplasms/
18. exp death
19. (relapse* or flare* or recurrence* or steroid* or corticosteroid* or remission* or colectom*).mp.
20. 10 and 11
21. 10 and 12
22. 10 and 13
23. 10 and 14
24. 10 and 15
25. 10 and 16
26. 10 and 17
27. 10 and 18
28. 10 and 19
29. exp mortality
30. 10 and 29
31. exp remission induction/
32. 10 and 31
33. 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 30 or 32
34. limit 33 to humans
35. limit 34 to (editorial or letter or “review”) case report*.tw.
36. 34 not 36
37. 34 not 36
38. 37 not 35

Cochrane Central Register of Controlled Trials
1. histologic* or neutrophil* or granulocyt* or eosinophil* or lymphocyt* or crypt* or myenteric plex* or lamina propri* or mucin deplet* or inflammatory cell infiltrat* or basal plasma*
2. MeSH descriptor: [Inflammatory Bowel Diseases] explode all trees
3. relapse* or flare* or recurrence* or steroid* or corticosteroid* or remission* or colectom* or outcome or hospitaliz* or hospitalis* or cancer or neoplas*
4. 1 and 2 and 3
Supplementary Table 1. Background characteristics of included studies.

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Mean Age</th>
<th>Sex (M/F)</th>
<th>Duration of Disease</th>
<th>Previous Disease Extent</th>
<th>Intervention Studied</th>
<th>Study Period</th>
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<tbody>
<tr>
<td>Azad 2011 24</td>
<td>India</td>
<td>37.61 (15-65)</td>
<td>15/11</td>
<td>5.6 years (1-20)</td>
<td>N/A</td>
<td>Histology and relapse</td>
<td>N/A</td>
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<tr>
<td>Bessisow 2012 11</td>
<td>Belgium</td>
<td>47 median (36-58)</td>
<td>40/35</td>
<td>N/A</td>
<td>56 pancolitis</td>
<td>Histology, serologic markers, and relapse</td>
<td>2008-2011</td>
</tr>
<tr>
<td>Bitton 2001 10</td>
<td>US, Canada</td>
<td>40 (36-42)</td>
<td>32/42</td>
<td>106 months mean</td>
<td>23% pancolitis, 34% left-sided, 36% proctosigmoiditis, 7% proctitis</td>
<td>History and relapse</td>
<td>20 months</td>
</tr>
<tr>
<td>Bryant 2015 25</td>
<td>UK</td>
<td>50 median (36-63)</td>
<td>41/50</td>
<td>9 years median (3-17)</td>
<td>19 extensive, 45 distal, 27 proctitis</td>
<td>History, endoscopy, and outcomes</td>
<td>11/2007-3/2008</td>
</tr>
<tr>
<td>Fujiya 2002 23</td>
<td>Japan</td>
<td>32.1 (12-65)</td>
<td>4/14</td>
<td>4 with &gt;10 years, 14 with &lt;10 years</td>
<td>16 total colitis, 2 left-sided</td>
<td>Magnifying colonoscopy and disease monitoring</td>
<td>1/1994-2/1999</td>
</tr>
<tr>
<td>Jauregui-Amezaga 2014 22</td>
<td>Spain</td>
<td>46 +/- (13.6-15.9)</td>
<td>30/34</td>
<td>9 years +/- (4.3-7.3)</td>
<td>28 extensive, 30 left-sided, 6 proctitis</td>
<td>High-resolution chromoendoscopy, NBI, fecal calprotectin, and relapse</td>
<td>N/A</td>
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<tr>
<td>Li 2014 26</td>
<td>China</td>
<td>44 (19-78)</td>
<td>29/14</td>
<td>32.5 months (6-72)</td>
<td>N/A</td>
<td>Confocal endomicroscopy and relapse</td>
<td>1/2011-6/31/2011</td>
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<td>Nishio 2006 27</td>
<td>Japan</td>
<td>37.8 (18-82)</td>
<td>64/49</td>
<td>7 years mean (0.3-26.7)</td>
<td>48 total colitis, 39 left-sided, 26 proctitis</td>
<td>Magnifying colonoscopy and disease monitoring</td>
<td>3/1995-4/2000</td>
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<tr>
<td>Nishiyama 2015 45</td>
<td>Japan</td>
<td>39.5 (17-68)</td>
<td>19/5</td>
<td>5 years (1-18)</td>
<td>19 total colitis, 2 left-sided, 3 proctitis</td>
<td>Endocytoscopy and disease monitoring</td>
<td>1/2013-4/2013</td>
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<tr>
<td>Paoluzi 2002 26</td>
<td>Italy</td>
<td>45 +/- 20 (20-69)</td>
<td>28/14</td>
<td>10 years (3-32)</td>
<td>30 total colitis, 12 left-sided</td>
<td>Azathioprine or methotrexate in induction or maintenance of remission</td>
<td>1/1994-9/2000</td>
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<tr>
<td>Study</td>
<td>Country/Regions</td>
<td>Median Age (Range)</td>
<td>Disease Extent</td>
<td>Disease Duration</td>
<td>Histology and Relapse</td>
<td>Additional Measurements</td>
<td>Follow-up Period</td>
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<td>Riley 1991</td>
<td>Manchester</td>
<td>N/A (21-78)</td>
<td>44/38</td>
<td>9 years (0.5-34)</td>
<td>17 total colitis, 18 left-sided, 28 proctosigmoiditis, 19 proctitis</td>
<td>Histology and relapse</td>
<td>N/A</td>
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<tr>
<td>Theede 2016</td>
<td>Denmark</td>
<td>39.3 (+/-13.92)</td>
<td>51/19</td>
<td>2.1 years</td>
<td>N/A</td>
<td>Fecal calprotectin and histologic status</td>
<td>9/2012-2/2014</td>
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<tr>
<td>Wolff 2013</td>
<td>Croatia, Czech, Estonia, Hungary, Germany, Israel, Latvia, Lithuania, Poland, Russia, Slovak Republic, Slovenia, Ukraine</td>
<td>44.7 (43.6-45.5)</td>
<td>319/328</td>
<td>3.9 mean years (0.1 to 43.8)</td>
<td>Beyond 15cm of anal margin</td>
<td>Mesalamine dose comparison</td>
<td>5/2005-4/2007</td>
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<tr>
<td>Wright 1966</td>
<td>Oxford, England</td>
<td>N/A</td>
<td>N/A</td>
<td>0-10+ years</td>
<td>Recruited during flare</td>
<td>Diet (milk, gluten, dummy) and relapse</td>
<td>N/A</td>
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<tr>
<td>Zenlea 2016</td>
<td>United States</td>
<td>43 (+/-14)</td>
<td>52%/48%</td>
<td>25% with 10+ years</td>
<td>46% pancolitis</td>
<td>Histology and relapse</td>
<td>2009-2013</td>
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Supplementary Table 2. Newcastle-Ottawa Scale scores for included studies.

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<td><strong>Selection (4):</strong></td>
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<td>Representativeness of exposed cohort</td>
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<td>Ascertainment of exposure</td>
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<td>Demonstration that outcome of interest not present at start of study</td>
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<td><strong>Outcome (3):</strong></td>
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<td>Was follow-up long enough for outcomes?</td>
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<td>Adequacy of follow-up of cohorts?</td>
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<td><strong>Total Points (9):</strong></td>
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