Epidemiology of Inflammatory Bowel Diseases

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SUMMARY
Data from epidemiological studies regarding the incidence rates of ulcerative colitis and Crohn’s disease have shown that both diseases are more common in the developed countries of North America, Scandinavia and Europe and less common in Asia, Africa and South America. Meanwhile, although the incidence of UC has remained relatively stable over the years, the incidence of CD has increased considerably since its first description in 1932. IBD typically affects young people, but may have a bimodal incidence with a second peak in later life. Men are slightly more likely to be affected with UC and women with CD. Mortality rates have declined in recent years and most individuals are now expected to live a normal life.

INTRODUCTION
The term inflammatory bowel disease (IBD) comprises primarily two disorders: ulcerative colitis (UC) and Crohn’s disease (CD). Although UC and CD are generally accepted as clinically distinct conditions with distinguishing anatomical and histological findings it has to be emphasized that about 10% of patients have indeterminate features between UC and CD that cannot be clearly categorized.

Epidemiological data on the distribution of UC and CD in diverse populations over time is extremely helpful in estimating the exact burden posed by these disorders, in determining potential etiologic factors and in measuring the impact of new therapeutic options for treatment and maintenance.

INCIDENCE
Incidence is the number of new cases of a disease that develop in a specific time interval, commonly 1 year. Data on IBD incidence can provide clues to etiology and the possible effect of environmental factors on disease progression.

Incidence rates for ulcerative colitis tend to be generally higher in North America, Great Britain and the Scandinavian countries (table 1). In these countries the incidence was seen to increase between the 1960s and 1980s, while now it is thought to have reached a plateau. Rates in central and southern Europe are somewhat lower (table 1). In Asia, Africa and Latin America the reported incidence for ulcerative colitis was low; however in recent years it appears to be increasing.

As regards Crohn’s disease, it appears more common in North America, Great Britain and Scandinavia, with lower rates reported in southern Europe, Asia and Africa (table 1). In recent years a remarkable rise in disease incidence has been reported and now the incidence of Crohn’s disease has exceeded that of ulcerative colitis in many parts of the world, including some parts of North America and Europe (Manitoba – Canada, northern France).

As regards the Greek population, studies from Ioannina and Crete have reported an incidence rate for UC of 4-11.2 per 100 000 inhabitants and an incidence rate for CD of 0.3-3 per 100 000 persons. It is of note that in Crete the incidence of both UC and CD appears to be much higher than in the other parts of Greece, a trend that has to be monitored carefully during the years to come.

PREVALENCE
Prevalence is the number of individuals with a specific condition at a given time. Prevalence figures are very
Table 1. Incidence of ulcerative colitis and Crohn’s disease from selected registries since 1980

<table>
<thead>
<tr>
<th>Region</th>
<th>Time period</th>
<th>UC incidence*</th>
<th>CD incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loftus et al 1</td>
<td>1984-1993</td>
<td>8.3</td>
<td>6.9</td>
</tr>
<tr>
<td>Blanchard et al 2</td>
<td>1987-1996</td>
<td>15.6</td>
<td>15.6</td>
</tr>
<tr>
<td>Scandinavia</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Moum et al 3</td>
<td>1990-1993</td>
<td>13.6</td>
<td>5.8</td>
</tr>
<tr>
<td>United Kingdom</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rubin et al 4</td>
<td>1985-1994</td>
<td>13.9</td>
<td>8.3</td>
</tr>
<tr>
<td>Southern/Central Europe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tragnone et al 5</td>
<td>1989-1992</td>
<td>5.2</td>
<td>2.3</td>
</tr>
<tr>
<td>Asia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morita et al 6</td>
<td>1991</td>
<td>1.9</td>
<td>0.5</td>
</tr>
<tr>
<td>Africa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wright et al 7</td>
<td>1980-1984</td>
<td>1.9</td>
<td>1.8</td>
</tr>
</tbody>
</table>

*cases per 100 000 persons

Important since they provide information regarding the healthcare burden of a disease, within a population. The highest reported prevalence rates of UC is from Olmsted County, Minnesota (USA), 1 with 229 cases per 100 000 persons, while the highest reported prevalence rates of CD are from Manitoba Canada with 198 cases per 100 000 persons.9

It has been estimated that if the prevalence rates in Olmsted County are applied to the United States population, there would be 1 000 000 individuals with IBD in USA. Accordingly, if the higher prevalence figures from European studies are extrapolated to the combined population of Europe, there may be as many as 1.8 million individuals affected.14

AGE

IBD is more common in young people. The peak age of onset is 15 to 30 years old, although it may occur at any age. About 10% of cases occur in individuals < 18 years old. Both UC and CD have a bimodal age distribution, with a second smaller peak occurring in individuals aged 50 to 70 years;15 however some studies of Crohn’s disease incidence performed within the past decade have not observed this second peak.16

SEX

Several studies have demonstrated that in the case of IBD men and women are generally at similar risk. However, according to literature data, ulcerative colitis is slightly more common in males, whereas CD is marginally more frequent in women, with a reported female to male ratio range 1:1 to 1.8:1.17

Both diseases tend to occur in higher socioeconomic groups and in residents of urban areas.16

RACE AND ETHNICITY

In the past IBD was thought to be much more common in Caucasians than African-Americans. This was probably due to the fact that most epidemiological studies were conducted in areas were non-white minorities are underrepresented.14 Although IBD is still affecting more frequently people of Caucasian and Ashkenazic Jewish origin than individuals from other backgrounds,19 this gap has been closing, with an increased incidence in African Americans and in second generation south Asians who have migrated to developed countries.20

MORBIDITY - MORTALITY

IBD is a chronic condition without a medical cure, which commonly requires a lifetime of care. It can cause significant morbidity, but it is not generally associated with increased mortality. In the era of immunoregulative therapies most patients are able to live a normal, productive life and epidemiological studies have indeed shown that mortality rates for both UC and CD have declined during the last decades.21,22

It has been estimated that each year in the United States, IBD accounts for 700 000 physician visits, 100 000 hospitalizations and disability in 119 000 patients. Over the long-term up to 75% of patients with CD and 25% to 33% of those with UC will require surgery.14
REFERENCES


