INTRODUCTION

Interest in the epidemiology and aetiology of inflammatory bowel disease has been a central theme in gastroenterology for a long time. One hundred years ago Kennedy Dalziel was amongst the earliest clinicians to describe what later became known as Crohn’s disease. At the time he wrote: “I can only regret that the aetiology of the condition remains in obscurity, but I trust that ’ere long further consideration will clear up the difficulty”(16).

However, despite intensive research on all fronts we remain ignorant of the cause of both conditions with many theories coming into fashion only to be later dismissed. The dramatic rise in incidence, particularly of Crohn’s disease, points towards environmental factors as playing a significant role. A major purpose of this review is to stimulate a co-ordinated international effort to establish an on-going data base in Central and South America in which new cases are registered and through which investigations into aetiology can be conducted. In both Brazil and Mexico there is evidence that the incidence of ulcerative colitis is increasing, as also is the case for Crohn’s disease in Brazil. The pattern of disease is, therefore, directly comparable to that reported from Europe and the USA during the 1970s and 1980s, but much lower than contemporary data from Spain. Although the incidence is similar to that reported from Portugal, the studies from Almada and Braga were conducted a decade before that from Sao Paulo. The situation in Brazil compares dramatically with Uruguay and Argentina where the reported incidence of inflammatory bowel disease is significantly less. However, with growing industrialisation it is likely that there will be an explosion of inflammatory bowel disease in some areas of Central and South America over the next 20 years. The creation of a network of researchers across South and Central America is a real possibility and through a Concerted Action there is the possibility that major strides could be made towards understanding the cause of inflammatory bowel disease and so develop preventive strategies.
However, by the 1990s the incidence of ulcerative colitis had dramatically increased in Spain and this change was to be followed shortly by similar increases in the frequency of Crohn's disease (Table 1). A Concerted Action 10 years earlier would have allowed more direct observation and assessment of those factors which are responsible for the worldwide expansion of these conditions. Such changes have now been reported in China, India and many other communities. Central and South America are the last major regions where inflammatory bowel disease is still uncommon and in which there is hope that the aetiology of these conditions might be identified through basic epidemiological research. A major purpose of this review is to stimulate a co-ordinated international effort to establish an on-going data base in Central and South America in which new cases are registered and through which investigations into aetiology can be conducted. It also presents a unique opportunity to investigate cohorts and the subsequent occurrence of Crohn's disease or ulcerative colitis. For example, young people who are recruited for military service are, in general, healthy and basic data on demography, social habits and family history can be recorded. Such a cohort can be followed long-term and this form of approach has been adopted in Korea, which is another low incidence area. Retrospective studies using military cohorts have been used in the USA, but this lacks the rigour of a prospective approach. The Millennium Cohort Study will address some of these issues. It uses traditional and web based methods to follow almost 100,000 service personnel and such an approach could be adopted in Central and South America.

Incidence and prevalence in Central and South America

Almost without exception ulcerative colitis is commoner than Crohn’s disease and this is true in studies from Brazil, Uruguay and Puerto Rico (Table 2). In both

### TABLE 1. Incidence studies of inflammatory bowel disease from Spain and Portugal

<table>
<thead>
<tr>
<th>Country</th>
<th>Period</th>
<th>Ulcerative colitis</th>
<th>Crohn’s disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Navalmoral de la Mata</td>
<td>2000 - 2009</td>
<td>9.8</td>
<td>5.9</td>
</tr>
<tr>
<td>Madrid</td>
<td>1998 - 2003</td>
<td>6.2</td>
<td>7.1</td>
</tr>
<tr>
<td>Navarra</td>
<td>2001 - 2003</td>
<td>10.3</td>
<td>6.6</td>
</tr>
<tr>
<td>Pamplona</td>
<td>1983 - 1993</td>
<td>3.8</td>
<td>2.5</td>
</tr>
<tr>
<td>Huelva</td>
<td>1996 - 2003</td>
<td>5.2</td>
<td>6.6</td>
</tr>
<tr>
<td>Asturia</td>
<td>1994 - 1997</td>
<td>9.5</td>
<td>6.1</td>
</tr>
<tr>
<td>Aragon</td>
<td>1992 - 1995</td>
<td>7.2</td>
<td>3.9</td>
</tr>
<tr>
<td>Castellon</td>
<td>1992 - 1996</td>
<td>6.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Sabadell</td>
<td>1991 - 1993</td>
<td>9.8</td>
<td>5.1</td>
</tr>
<tr>
<td>Vigo</td>
<td>1991 - 1993</td>
<td>7.7</td>
<td>5.1</td>
</tr>
<tr>
<td>Mallorca</td>
<td>1991 - 1993</td>
<td>7.8</td>
<td>5.8</td>
</tr>
<tr>
<td>Motril</td>
<td>1991 - 1993</td>
<td>4.3</td>
<td>6.5</td>
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<tr>
<td>Marbella</td>
<td>2000 - 2001</td>
<td>7.3</td>
<td>4.9</td>
</tr>
<tr>
<td>Granada</td>
<td>1979 - 1988</td>
<td>2.0</td>
<td>1.3</td>
</tr>
<tr>
<td>Soria</td>
<td>1981 - 1990</td>
<td>3.2</td>
<td>1.5</td>
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<tr>
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<td>0.8</td>
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<tr>
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<td>4.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Merida</td>
<td>1996 - 2000</td>
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<td>2.2</td>
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<td>Portugal</td>
<td></td>
<td></td>
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<tr>
<td>Almada</td>
<td>1991 - 1993</td>
<td>1.7</td>
<td>2.3</td>
</tr>
<tr>
<td>Braga</td>
<td>1991 - 1993</td>
<td>5.5</td>
<td>3.7</td>
</tr>
</tbody>
</table>

The incidence data from published papers is recorded as cases/100,000 population/year.

### FIGURE 1. Distribution of inflammatory bowel disease in Hispanic Communities.

Incidence data is quoted for ulcerative colitis and then Crohn’s disease. In the case of Madrid the most recent figures are quoted first.

- The creation of networks of research teams in Europe;
- Promotion of national financing of research projects relevant to European priorities in health research;
- Transfer of expertise from centres of excellence to less advanced research teams.
Brazil⁴⁷, ⁵⁰ and Mexico⁴⁹ there is evidence that the incidence is increasing, as also is the case for Crohn’s disease in Brazil (Table 2)⁵⁰. The pattern of disease is, therefore, directly comparable to that reported from Europe and the USA during the 1970s and 1980s and more recently from Eastern Europe and China. However, the incidences are significantly lower than contemporary data from Spain. (Figure 1). In general, they are similar to those from Portugal but the studies from Almada and Braga were conducted a decade before that from Sao Paulo⁴⁵, ⁵⁰.

The situation in Brazil⁴⁷, ⁵⁰ compares dramatically with Uruguay and Argentina¹¹, ²⁴ where the reported incidence of inflammatory bowel disease is significantly less. Such variations between adjacent countries would give particular value to a continental study of inflammatory bowel disease, provided it adopted a more analytical style than the simple descriptive approach taken by the Concerted Action in Europe. Work in Uruguay would strongly support the view that such differences are real and not due to variations in the way cases were identified¹¹. Clearly the very existence of such differences between countries should be a major stimulus to international co-operative studies in Central and South America.

Most patients in the Brazilian study were urban dwellers and of European descent⁵⁰. The urban predominance of inflammatory bowel disease has been described in a number of studies¹⁸, ²⁹, ³⁴, ⁴⁶. It seems to be a particular feature early in the appearance of the condition in a community with the difference lessening and ultimately disappearing with time. It is of interest that the Brazilian study links the movement of people into urban areas with economic driving factors including the need for women to work in factories and other industries so exposing them to environmental factors which may play a part in the aetiology of inflammatory bowel disease.

The flow of immigrants into Argentina, Uruguay, Brazil and Venezuela also provides opportunity for further assessments²². Such work was done on the occurrence of cancer in migrants in the 1990s in Uruguay⁴⁸, Brazil⁹ and Argentina⁸⁰. An interesting recent Spanish study on emigration looked at 34 patients who emigrated to other parts of Europe and 16 to South America⁶. The authors suggested that emigration was associated with ulcerative colitis and not with Crohn’s disease. It also linked emigration to industrialised European countries and not to Latin America during the first decade of the 21st Century. Work in the UK has demonstrated that the incidence of colitis can rise to that of the host population and even exceed it within one generation¹⁴. With growing industrialisation it is likely that there will be an explosion of inflammatory bowel disease in some areas of Central and South America over the next 20 years.

**CONCLUSION**

What is the way forward? The main impact of the Concerted Action on inflammatory bowel disease in Europe was to create an atmosphere in which multi-national studies became a real possibility. Clinicians with an interest in inflammatory bowel disease from a range of countries came together and worked out common agendas for research and shared their methods and pooled results. Into these groups they drew statisticians and patient representatives. Such activities helped stimulate the emergence of organisations such as the European Crohn’s and Colitis Organisation (ECCO)¹³. The creation of a network of researchers across South and Central America is a real possibility. There already exist registers of patients with inflammatory bowel disease in a number of countries e.g. Brazil⁴⁷, ⁵⁰, Argentina²⁴, Panama²⁴, Uruguay¹¹, and Puerto Rico⁴⁹. The maintenance of such registers can be costly and requires dedicated staff. Registration on computer data bases and sharing of data can be restricted by legislation related to privacy and by concerns about the availability of such data outside national boundaries. However, such difficulties can be overcome and by pooling data the results become more robust and such studies may be the last opportunity to readily identify those environmental factors which are likely to be a significant factor in the emergence and spread of inflammatory bowel disease across the world.

Patient self help groups can provide useful support to any network of researchers through explanations to members and, at times, political lobbying. Such groups already exist in Brazil and Argentina. They tend to appeal to a certain sector of the population e.g. in the UK membership is dominated by English women and a significant number of people do not join because they do not wish to “broadcast their illness”⁵⁰. Nevertheless the European Federation of Crohn’s and Ulcerative Colitis Associations (EFCCA) has emerged as a significant umbrella organisation which supports patients and clinicians. It recently welcomed Fundación Mas Vida de Crohn & Colitis Ulcerosa from Argentina as an associate member.

The development of these networks, the facilitation of meetings and support of a research program with common protocols and clearly defined endpoints, which will include measures of incidence and an investigation of potential aetiological factors, will require funding. In days when such funds are hard to achieve the role of pharma companies should not be dismissed. South America is likely to be a major market for SASA compounds and for biologic therapies. It is not unreasonable to expect them to provide seeding funds to, at least, initiate an international meeting of clinicians in Central and South America so that a “Concerted Action” on the epidemiology and aetiology of inflammatory bowel disease can happen.
Inflammatory bowel disease in Hispanic communities: a concerted South American approach could identify the aetiology of Crohn’s disease and ulcerative colitis

REFERENCES


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