Crohn’s disease initially diagnosed after age 60 years

SIR—Recent studies have explored clinical features of Crohn’s disease [1–4]. Using a database of over 1,000 patients, Crohn’s disease was previously observed to be female-predominant, primarily affecting young adults with a high rate of strictureing and/or penetrating complications. Indeed, over 80% had a diagnosis established prior to age 40 years and less than 5% were diagnosed after age 60 years.

Prior retrospective studies described the clinical features of Crohn’s disease in the elderly, although in some, elderly was defined as over age 50 years, or even age 40 years, and patient numbers were limited [5–8]. In Crohn’s own experience of 530 patients, only 7 were seen after age 60 years [8]. Moreover, an elderly cohort might not be entirely reflective if initially diagnosed before age 60 years.

The present study explored the location and behaviour of Crohn’s disease using the Vienna method [9] applied to elderly patients diagnosed after age 60 years.

Methods

Definition and inclusions

All patients were derived from an established database [1–4] defined as elderly onset if a diagnosis was established after age 60 years with at least 2 years of follow-up data, and referred by British Columbia family physicians from 1979 to 2003, inclusive. Diagnosis of Crohn’s disease was based on the criteria of Lennard–Jones [10].

Classification of elderly-onset Crohn’s Disease

Patients were classified using the Vienna method [9]. Specific features used to define each patient included: disease location defined as the maximal extent of disease, or disease at first resection (i.e. L1, ileum, possibly involving cecum; L2, colon; L3, ileocolon; L4, upper gastrointestinal tract regardless of other disease sites); and, disease behaviour (e.g. B1, non-stricturing and non-penetrating; B2, structuring; B3 penetrating). In the Vienna method, the disease is defined as B3 if, at any time, intra-abdominal or perianal fistula, perianal ulceration, inflammatory mass and/or abscess have developed, even if a co-existing stricture is present.

Definition of disease behaviour in the Vienna method has no specific time limit [9] and was defined in a cumulative fashion at the most recent patient encounter. Statistical analyses were done using Fisher’s exact test.

Results

Patient population and follow-up

There were 43 patients (i.e. 19 males, or 44.2%). The duration of follow-up was at least 6 years or more for almost 50%, with a mean of 6.2 years (males, 5.2 years; females, 7.0 years). These either exceed or are similar to the recorded follow-up for more limited numbers of elderly-onset cohorts reported in other studies [5–8].

Age and sex

Most were diagnosed between 60 and 69 years (i.e. 12 of 19 males, and 15 of 24 females), and for each decade, the population was female-predominant, possibly reflecting the female-predominance of this age group in the general Canadian population. Age at diagnosis for males ranged from 60 to 86 years (median, 68 years; mean, 69.2 years), while females ranged in age from 60 to 82 years (median, 68 years; mean, 68.8 years). Oldest age at initial diagnosis for males was 86 years, and females 83 years, both less than the highest recorded age of 92 years in Crohn’s disease.

These results are consistent with the female-predominant pattern of Crohn’s disease reported from other North American or European centres [5–8].

Disease location

Most had colonic involvement alone (18 of 43, or 41.9%) rather than involvement of the ileum alone (13 of 43, or

References


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30.2%) or combined ileocolonic disease (10 of 43, or 23.2%) \((P<0.05)\).

Most females had ileocolonic disease (8 of 24, or 33%) or disease localised to the ileum or colon alone (7 of 24 each, or 29.2%). In contrast, most males had disease localised in the colon (11 of 19, or 57.9%), although ileal involvement (6 of 19, or 31.6%) or combined ileocolonic disease was also present (2 of 19, or 10.5%). This disease pattern in males was significant \((P<0.05)\). In addition, colonic involvement occurred more often in males than females \((P<0.05)\).

Upper tract disease was detected in only 2 females, both with concomitant ileal involvement. One female also had jejun involvement with strictures while the other had stenosing disease in both oesophagus and duodenum. No male had upper tract disease.

**Disease behaviour**

Most patients had complex disease (28 of 43, or 65.1%) that could be defined as either stricturing (19 of 43, or 44.2%) or penetrating type (9 of 43, or 20.9%) while ‘inflammatory’ or B3 disease was present in 15 of 43, or 34.9% \((P<0.05)\).

Females had more complex disease (i.e. 18 of 24, or 75%) \((P<0.05)\) as reflected in the development of either the stricturing (i.e. stenosing) (i.e. 12 of 24, or 50%) or penetrating (i.e. perforating) complications (i.e. 6 of 24, or 25%) compared to B3 disease type (i.e. 6 of 24, or 25%). Although more males (i.e. 10 of 19, or 52.6%) also had complex disease, a higher percentage of males (i.e. 9 of 19, or 47.4%) compared to females (i.e. 6 of 24, or 25%) had ‘inflammatory’ or B3 disease.

**Comparison to overall database**

Comparisons between the overall database and elderly-onset Crohn’s disease for disease location and behaviour were based on the Vienna method [9]. More colonic disease (41.9 versus 27.2%) and less upper tract disease (4.7 versus 13.1%) were detected in the elderly-onset population \((P<0.05)\). In addition, this group had more structuring (44.2 versus 33.6%) and less penetrating (20.9 versus 37.2%) disease complications.

**Discussion**

Prior studies on Crohn’s disease noted that the initial diagnosis was made after age 40 years in about 15% [1]. The present report now focuses on an elderly cohort first diagnosed with Crohn’s disease after age 60 years. Although less than 5% of the entire Crohn’s disease database, a female-predominant pattern emerged, similar to the entire database with adults diagnosed before age 40 years [1]. These findings in a prospectively accumulated Canadian population are consistent with older retrospective American studies showing a female-predominant pattern [7].

Disease was localised mainly in the colon, particularly in males, with less upper gastrointestinal tract involvement. These findings suggest that Crohn’s disease in the elderly is a far less extensive inflammatory disease process, especially compared to pediatric patients where the disease appears to be more clinically aggressive and extensive [3, 4]. Moreover, the findings here confirm important observations in an earlier report by Fabricius et al. [6] showing less extensive disease. Additional studies are needed to determine if ageing per se has a direct effect on the extent of involvement with this complex inflammatory process in Crohn’s disease as well as the role of ageing in the localisation of the disease to different sites along the length of the gastrointestinal tract.

In this elderly cohort, disease behaviour could often be classified as ‘inflammatory’ (non-stenosing, non-penetrating) disease, rather than more complex with stricturing or penetrating complications. Moreover, this phenotypic expression of disease behaviour may be, in part, sex-dependent as more elderly males were defined with inflammatory disease, compared to elderly females. Complex disease was seen in both sexes, and most often, stenosing, rather than penetrating, complications developed. This is not entirely surprising since our prior long-term studies on the natural history of Crohn’s disease in those followed for over two decades from the same database indicated that the number of patients with penetrating disease complications accumulates with time as the period of follow-up is prolonged [2]. Further studies are needed to explore the effects of ageing on this heterogeneous inflammatory process in Crohn’s disease along with possible age-dependent effects on its phenotypic expression.

**Key points**

- Crohn’s disease initially diagnosed in the elderly occurs in a female-predominant population.
- The inflammatory process was limited, often only involving the colon rather than more extensive parts of the gastrointestinal tract.
- The disease behaviour could be classified as ‘inflammatory’ in type, rather than being more complex with strictures or penetrating complications.
- Phenotypic expression of the clinical features in Crohn’s disease may be related to the ageing process.

**Declaration of Conflicts of Interest**

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Post-acute transfer of older people to intermediate care services: the sooner the better?

SIR — We recently reported a randomised controlled trial investigating locality-based community hospital (CH) care for older people compared to elderly care wards in a district general hospital (DGH) [1]. The intention-to-treat analysis, appropriate to the pragmatic study, demonstrated improved independence outcomes at 6 months in favour of CH care. Outcome was assessed by change in the Nottingham extended activities of daily living scale (NEADL) [2].

The adjusted mean (95% confidence interval) between-group difference in outcome was 5.30 (0.64–9.96) points. The study protocol, based on existing local clinical practice, included the expectation that patients randomised to CH care would transfer within 2 days of randomisation. We anticipated that clinical service exigencies might intrude causing delays in transfer. To investigate the effect of delayed CH transfer on outcomes, we undertook pre-specified additional analyses, the results of which we report here.

Methods

The trial methods are described in full elsewhere [1]. Briefly, patients who had been admitted acutely to a care of the elderly department in a DGH were eligible for the study if they were registered with a general practitioner in the primary care trust served by the study CH and were considered by the responsible geriatrician to be medically stable and in need of post-acute rehabilitation care. Patients were then approached for recruitment to the study by a research nurse who was independent of the ward team. The trial was approved by the local research ethics committee and patients and/or relatives gave informed consent. After recruitment, patients were randomised (in a ratio of 2:1 CH:DGH) to receive rehabilitation in the study CH or to remain for rehabilitation in the DGH elderly care wards. Patients in the CH group were assessed by the consultant-led multidisciplinary team and received an individual care plan. Patients in the control group received ongoing specialist elderly care department multidisciplinary care involving consultants, nurses, therapists, dieticians and pharmacists and in accordance with good clinical practice as described in the National Service Framework for Older People. Each patient had an individualised care programme as determined by their multidisciplinary needs assessment. Transfer to the CH was arranged independently of the research team by a member of a case management team employed by the primary care trust within which the CH was located and the established local protocol was to transfer patients within two working days. We collected data contemporaneously on the reasons for delay in transfer to the CH; or, where this information was not available, we inspected the medical records.

Patients were assessed at baseline, at 1 week after hospital discharge, and at 3 and 6 months after recruitment. Our primary outcome measure was the NEADL [2], a valid and reliable measure [2, 3] of independence in four areas of daily life: mobility, kitchen, domestic and leisure activities. The score range is 0–66; higher scores are associated with greater independence.

The effects of delays in CH transfer were investigated in exploratory analyses. Baseline characteristics and outcome were compared for three sub-groups of patients who had received the intended treatment allocation: those patients who had transferred to the CH within the specified 2 days (‘early transfer’ group); those who had transferred to the CH after 2 days (‘late transfer’ group) and the controls (‘no transfer’ group) who remained as allocated in the DGH.

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Statistical analysis

We used a scatter plot and Pearson’s correlation coefficient to examine the relationship between time to transfer and outcome for patients in the CH group. We carried out two adjusted comparisons of the changes in scores on the primary outcome measure (NEADL score) from baseline to 6 months using analysis of covariance to adjust for the baseline variables of age, sex, institutional care, and baseline Barthel index (BI) score [4, 5]: one analysis comparing ‘early transfer’, ‘late transfer’ and control groups (with post hoc investigation

References


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