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Is dietary treatment of Crohn's disease safe in pregnancy? A retrospective study

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SUMMARY

Background: It is possible to control Crohn's disease by dietary therapy involving the detection and exclusion from the patient's diet of foods which provoke symptoms. The effects of such treatment on pregnancy have not been studied in detail.
Aim: To determine the outcomes and complications in pregnancies occurring in women with Crohn's disease receiving dietary therapy.
Methods: A review by retrospective questionnaire and the contemporaneous medical and dietetic notes over a period of five years of women attending the department of gastroenterology at Addenbrookes hospital, Cambridge for treatment of Crohn's disease by diet.
Results: Forty seven pregnancies occurred in thirty four women. At conception, 51% of women were in remission, 40% had mildly active disease and 9% active disease. During pregnancy 78% remained stable or improved. Delivery was by caesarean section in 25%. The incidence of miscarriage (21%), stillbirths (2%), congenital abnormality (0%), prematurity (10%) and low birth weight (5%) were not different from those expected in the general population. Food intolerances improved during pregnancy in 66%. Nevertheless 55% relapsed within 3 months post-partum.
Conclusions: The incidence of complications of pregnancy was no greater than those observed in the healthy British population. Dietary treatment in pregnancy appears to be safe but relapse after delivery is common.

1. Introduction

Crohn's disease (CD) arises because of an attack on the intestinal microflora by the body's immune system [1,2]. Treatment is thus possible either by blocking immune activity by immunosuppressive drugs such as corticosteroids and azathioprine, or alternatively by modifying the activity of the microflora, for example by the use of antibiotics [3].

The metabolism of the microflora may also be modified by diet [4–6]. Elemental diet, which contains little indigestible residue to act as a substrate for bacterial metabolism, is an effective treatment for CD, producing remission after two to three weeks in over 80% of compliant subjects [7,8]. Elemental diet is known to be effective during pregnancy and to have no harmful effects [9].

Whilst there is now general agreement on the efficacy of enteral feeds in inducing remission in CD, there is still dispute about the subsequent management. Long-term enteral feeding is clearly impractical, but we have presented evidence that remission may be prolonged by reintroducing normal foodstuffs in a carefully controlled manner to detect specific food intolerances [5,10,11]. Unlike gluten in coeliac disease, however, no specific foodstuff can be implicated in CD. Each patient must slowly build up his or her own individual exclusion diet. This is a slow and tedious process punctuated by occasional unpleasant reactions to foods but which provides great benefit when successful, not only in terms of length of remission, but also in the lack of side effects due to drugs such as osteoporosis [10,12].

Although many fibrous and fatty foods may provoke reactions, those most frequently implicated include wheat, maize, dairy products and yeast and it is therefore important that the process of food re-introduction is supervised closely by a dietitian to avoid the risk of the diet becoming nutritionally inadequate. Particular care is necessary during pregnancy when nutritional requirements are increased. Moreover, pregnancy in CD is more likely to be complicated by premature delivery, or infants of small birth-weight [13].

The usual age of onset of Crohn's disease is frequently between 15 and 35. As this coincides with the reproductive years the issue of

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pregnancy is of great importance. Of concern to the female patient is the effect of the disease on the outcome of pregnancy and conversely, the effect of pregnancy on disease activity.

There have been few reports on pregnancy in Crohn's patients treated with diet. Total parenteral nutrition has been used successfully to supplement nutritional intake in pregnant Crohn's patients [14–16]. In another study, favourable results were obtained with oral hyperalimentation in a twin pregnancy [17]. Only one study to date has reported on diet as a primary therapy for Crohn's disease during pregnancy. Teahon et al. [9] followed the progress of four patients treated with an elemental diet after relapsing. All went into clinical remission within a few days of starting treatment and delivered a healthy child at term.

This paper investigates pregnancy in a group of Crohn's patients reviewed over a period of 5 years who had received diet as a primary treatment at Addenbrooke's hospital, Cambridge. The effect of the disease on the outcome of pregnancy and also the influence of pregnancy on disease activity were recorded.

2. Patients and methods

All female patients with Crohn's disease attending a gastroenterology outpatient clinic at Addenbrooke's hospital who had had at least one pregnancy whilst receiving dietary treatment were asked to participate in the study. Data was collected over a period of five years, including previous pregnancies within the preceding 10 years if the patients had then been on treatment by diet.

All patients were established on a remission maintenance diet for Crohn's disease before becoming pregnant. This individualised diet had been constructed through a process of food reintroduction and testing under the guidance of a registered dietitian. Patients who were receiving medication in addition to dietary treatment were included in the study and details of the drugs were recorded.

Patients were asked to complete a simple questionnaire on their health and food intolerances during their pregnancy and up to six months post-partum. Medical and dietetic notes were used to confirm information on disease status and diet. Blood results and

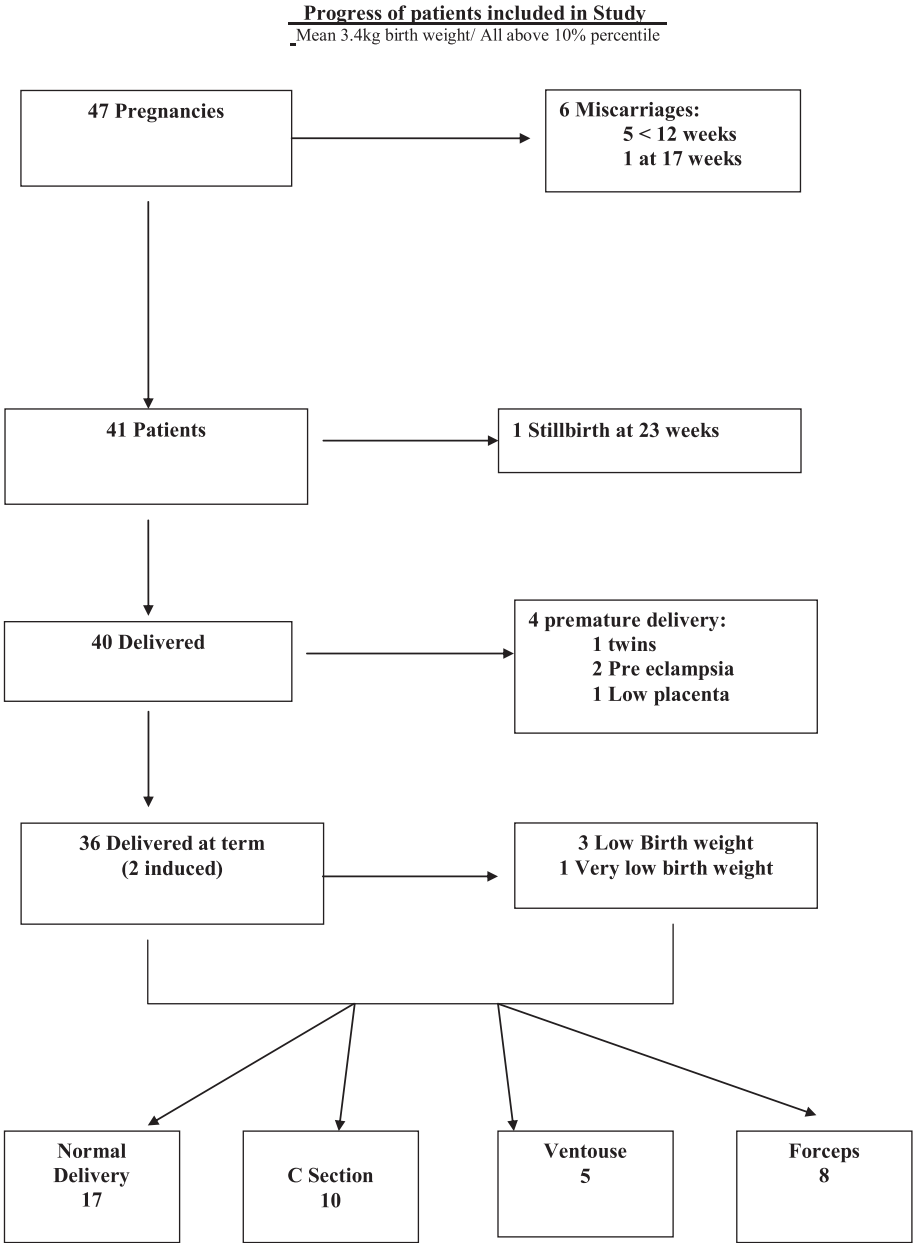

Fig. 1. Summary of pregnancies and outcomes included in the study.