

PAPERS AND ORIGINALS

Children with Recurrent Abdominal Pain: How Do They Grow Up?

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Summary

The results of treatment by reassurance and explanation of 30 children with recurrent abdominal pain have been compared with those in a group of 30 children seen earlier and given no such treatment. Most of the 19 treated children who responded to treatment did so more quickly than the untreated ones, and relapse did not occur in the treated group.

Introduction

Do children with recurrent abdominal pain grow out of it? Does treatment help them to do so? In other words, do little belly-achers grow up to be big bellyachers? Recurrent abdominal pain is one of the commoner childhood complaints, affecting one in nine of unselected schoolchildren (Apley and Naish, 1958). An organic cause is found in only a small proportion of them, hardly more than one in 20 (Apley, 1959). It is with the remainder, most of whom suffer from "psychogenic pains," that this paper is concerned.

Patients and Methods

A series of 30 patients with recurrent abdominal pain, virtually untreated, had been followed up and reported on earlier (Apley, 1959); the long-term results were deplorable. We know of no other long-term survey, and in view of the difficulties we are not surprised. A new series now reported concerned patients who had been treated and who were studied in a similar way, nearly all by interviews in their homes (with the parents taking part in 15 cases). They were questioned by one of us (B.H.) to assess

whether for treated children the prognosis in the long term had been altered. The treatment had consisted of reassurance based on explanation and discussion; no drugs were used. (Details of the methods used have been published earlier (Apley and MacKeith, 1968)).

TWO SERIES COMPARED

Each series consisted of 30 patients. All had been referred with recurrent abdominal pain to a children's hospital. There were three criteria for inclusion in the studies: three or more episodes of pain, pain occurring over a period of at least three months, and pain affecting the child's activities. The original numbers collated in each series were about twice as large, but some had left the parental home when they grew up and could not be traced, while a few more did not comply exactly with the criteria. A further three cases had been excluded from each series because the patients seemed seriously disturbed and had promptly been referred for psychiatric treatment.

The length of the follow-up period was from eight to 20 years in the untreated patients and from 10 to 14 years in the treated group. The ages of the patients (boys and girls in almost equal numbers) at the time of the follow-up survey were between 15 and 24 years in the first and 15 and 28 years in the second series.

We have tried to answer the following questions: (1) What proportion of children do not "grow out of" the pains, without or with treatment? (2) Are they liable to other disorders later? (3) Do they live ordinary lives when they grow up? (4) What factors influence the prognosis?

DO THEY "GROW OUT OF" PAINS?

In 19 of 30 treated cases abdominal pains ceased, 14 quickly after treatment was started and five later. In the remaining 11, pains of some degree continued into adolescent or early adult life, which was as far as the survey could be taken. Though these overall figures are far from showing the whole picture, superficially they are almost identical with those of the earlier, untreated series (table I).

TABLE I—Results of Present Study Compared with Earlier Series

No. at Follow-up	Previous Untreated Series	Present Treated Series
No abdominal pains, no other symptoms	9	9
No abdominal pains, but other symptoms	9	10
Abdominal pains continuing, with other symptoms	12	11

Nevertheless, in those treated cases where the attacks of pain ceased they did so promptly in 14 of 19 treated cases (table II), but in only two of 10 untreated cases for whom the information is available. Moreover, once the pains ceased they did not recur later in any treated cases but did recur in four of the untreated ones.

In both series just under a third of the cases became free of all symptoms. Those remaining, who grew up with abdominal pain or other symptoms, will be compared.

What of the severity of the attacks? In 11 of the treated series attacks of pain persisted into adolescence or early adult life. The attacks of pain at the time of follow-up are summarized in table II; in two cases they continued to be severe and frequent.

TABLE II—Follow-up of 30 Treated Cases with Abdominal Pains

	No. of Cases
No pains (rapidly ceased 14, slowly ceased 5)	19
Mild and infrequent	7
Moderate, less frequent	2
Severe and frequent	2

In one of the two severe cases pain was consistently right-sided from the age of 6; at 21 years of age bilateral ovarian cysts were removed and the pains did not recur (see below). In the other severe case with continuing pain the patient later lost weight and at 17 years a depressive state was diagnosed.

ARE THEY LIABLE TO OTHER DISORDERS LATER?

Table III shows what other disorders developed in the 21 patients with continuing symptoms, and makes a comparison with the untreated series (Apley, 1959). Rather interestingly, there was in this respect little difference between those patients with or without continuing abdominal pains. Treatment appears to have made a small but significant contribution.

TABLE III—Follow-up: Frequency of Non-abdominal Disorders

	30 Cases Untreated	30 Cases Treated
No. with persisting disturbances	21	21
Migraine	3	0
Headaches (severe or moderate)	15	5
Dysmenorrhoea	5	4
Other pains	1	1
Other bodily symptoms	4	6
"Nerves," anxiety	13	10

DO THEY LIVE ORDINARY LIVES WHEN THEY GROW UP?

How the patients "lived with their symptoms" is shown in table IV.

TABLE IV—Follow-up of 21 Treated Cases

Abdominal Pains	Work and Other Activities	
	Restricted	Not Restricted
None	—	10
Mild or moderate	—	9
Severe and frequent	2	—

In all but the two severe cases the treated patients understood and accepted the association of stress and pain. In all but these two their symptoms did not cause absenteeism from work or interference with their activities. The information in the earlier, untreated series is insufficient for an exact comparison, though we know that three-quarters of those with continuing abdominal pains were not well adjusted. We believe that adaptation, based on an understanding of the disorder, was far from satisfactory in many of the untreated cases and both their work and other activities suffered more.

WHAT FACTORS INFLUENCE THE PROGNOSIS?

(1) Children from "painful families"—that is, 11 with one or both parents having recurrent pains and two with seriously disturbed families—made up nearly half the cases. In these, other pains and symptoms were more likely to persist than in more normal families and to be associated with anxiety. (2) Females had a better chance than had males of losing the abdominal pains, but a rather higher chance of developing other symptoms. (3) In patients whose pains start after the age of 6 years there was a slightly greater chance of complete recovery and a slightly lower incidence of extra-abdominal symptoms. So, the younger the better. (4) The prognosis was much better in patients whose symptoms had occurred for less than six months before we undertook treatment. The numbers are not large enough for statistical treatment but only two of 10 such patients continued to have attacks of pain, compared with 10 of 20 in whom pains had occurred for longer than six months before consultation and treatment. So, the sooner the appropriate treatment is started, the better. These factors are summarized in table V.

TABLE V—Good and Bad Prognostic Points

Factor	Prognosis Better	Prognosis Worse
Family	Normal	"Painful family"
Sex	Female	Male
Age of onset	Over 6 years	Under 6 years
Period before treatment	Under six months	Over six months

At the worst, a boy from a "painful family" whose pains start when he is under the age of 6 years, and who is not treated properly for a year or two, would have little or no chance of growing up to live a normal, well adapted life.

Discussion

Organic Disease.—When a psychosomatic disorder is diagnosed the doctor may secretly fear that, despite all precautions, he is overlooking an organic disease. The two series discussed here together comprise 60 patients who were followed up for many years. One untreated case later had a duodenal ulcer. Among the treated cases one undiagnosed organic disorder did come to light subsequently. This was in a woman with mainly right-sided pain who proved to have dermoid cysts of both ovaries. She had been investigated more exhaustively than any other patient, partly because of the guiding rule (Apley, 1959) that "the further the pains are from the centre, the more likely are they to be due to organic disease." With extremely rare exceptions organic disease can be satisfactorily ruled out from a carefully taken history, appropriate to the disorder, together with minimum of investigations (only one test is always mandatory: urine examination for evidence of infection). Two facets of diagnosis are necessary and complementary: reasonable evidence against organic disease, together with evidence in favour of an emotional disturbance. It is prudent not to rely on either one alone, but on both. If improvement does not

occur, either the emotional or physical aspects can, of course, be examined further, but over-investigation has its own dangers.

Psychiatric Disease.—There have been claims (Frommer and Cotham, 1970) that recurrent abdominal pain in childhood is commonly a manifestation of depressive illness, and accordingly may be treated with antidepressive drugs. In our experience depression, occurring with the pains or developing later in life, is not common. Among our cases, at the most one in 10 may be so labelled. A far more usual factor is anxiety.

"Painful Families".—The present series has again confirmed the high incidence of pains in the patient's family (Apley, 1959). The family pains were mainly abdominal: in 11 of 30 cases one (or occasionally both) parents had abdominal symptoms. Pains elsewhere, and migraine, were common too and "nerves" even commoner. We have learned to ask twice as we obtain a more accurate history, and higher figures, when the parents have had time to think the questions over. The child with recurrent pain who comes from a painful family is most unlikely to grow up symptom-free: he has an equal chance of losing the abdominal pains but nearly always develops other symptoms.

Treatment.—The treatment given has been called "informal psychotherapy." It is reassurance based on explanations and discussions. It cannot be claimed to have "cured" the pains, but it was helpful in speeding the recovery from attacks of pain and lessening the occurrence of other symptoms, both physical and nervous. It seemed also to increase the patient's adaptability and make it more likely that he could live a normal life. In our follow-up of treated cases, half the patients were interviewed with their parents. Years after treatment was finished these parents emphasized, time and again, the good effects of reassurance with explanations and discussions both on themselves and on their children. After all, the family is a unit of disease.

References

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Evaluation of Chlorpropamide in Chemical Diabetes Diagnosed during Pregnancy

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Summary

The intravenous glucose tolerance test (I.V.G.T.T.) was used to diagnose chemical diabetes during pregnancy in 180 women, 50 of whom subsequently received chlorpropamide therapy in a daily dosage of 100 mg; the remainder had no drug therapy.

Preliminary work showed the I.V.G.T.T. to be reproducible in the second and third trimesters but not in the puerperium in normal pregnancy. Though intravenous glucose tolerance deteriorates between the second and third trimesters in women with no features of diabetes, a significant improvement occurs after a course of chlorpropamide in a daily dosage of 100 mg during pregnancy in chemical diabetes, but this treatment did not enhance the rate of return to normal glucose tolerance post partum.

Plasma glucose and insulin studies showed no evidence of hypoglycaemia or hyperinsulinism in the mother at

delivery or in the newborn when chlorpropamide had been used compared with a group receiving no such treatment. In the infants of the chlorpropamide-treated mothers there was a suggestion of an increased rate of glucose disposal in response to a glucose challenge, but no increase in birth weight.

There were two fetal deaths in the 50 pregnancies of mothers treated with chlorpropamide, one being due to a mistaken premature delivery and the other to a diaphragmatic hernia. Thus chlorpropamide in a dose of 100 mg a day has been shown to reverse chemical diabetes diagnosed and treated in pregnancy without apparent risk to the fetus.

Introduction

This paper is concerned with chemical diabetes diagnosed for the first time during pregnancy. Chemical diabetes has been defined as an abnormal response to a glucose load but with a fasting capillary blood glucose value not exceeding 130 mg/100 ml (FitzGerald and Keen, 1964). This form of diabetes has been described otherwise as "asymptomatic" or "sub-clinical" (subgroup "a," FitzGerald and Keen, 1964).

In our experience chemical diabetes occurs about six times more frequently in pregnancy than the overt variety, so it is important to know if there is an increased risk to the fetus in this mild degree of diabetes, though it is well known there is an increased risk in the prediabetic period in general (Miller, 1945; Malins and FitzGerald, 1965).

There is a consensus that prolonged pregnancy should be avoided and delivery at or before the expected date should be effected when even mild glucose intolerance has been found. In overweight chemical diabetic pregnant subjects dietary treatment during pregnancy is appropriate and may be all that is necessary. In pregnant women of near normal body weight the therapeutic alternatives available to reduce the effects of maternal chemical diabetes are insulin or an oral hypoglycaemic agent such as a sulphonylurea.

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