normally; he explains the flat oral-glucose curve as being due to lack of available glycogen in the body, with the result that oral glucose is utilized by the liver as fast as it enters the portal system.

Summary

It is contended that coeliac disease maintains to-day its position as a clinical entity, and can be distinguished from fibrocystic disease of the pancreas and from the other causes of steatorrhoea in childhood. To group all these conditions under the term "coeliac syndrome" is confusing. The facts regarding excessive faecal-fat excretion and the flat oral-glucose absorption curve in coeliac children are not disputed, but their significance requires reconsideration.

The view that coeliac disease is due to a defect in the absorption mechanism of the intestine does not as yet rest on a sure foundation. It may still remain to identify the varying clinical conditions that result from a failure to produce any one of the several enzymes required for complete digestion.

REFERENCES

- Andersen, D. H. (1938). *Amer. J. Dis. Child.*, **56**, 344.
 — (1945). *Ibid.*, **69**, 221.
 — (1947). *J. Pediatr.*, **30**, 564.
 Emery, J. L. (1947). *Arch. Dis. Childh.*, **22**, 41.
 Farber, S., Shwachman, H., and Maddock, C. L. (1943). *J. clin. Invest.*, **22**, 827.
 Frazer, A. C. (1943). *J. Physiol.*, **102**, 306.
 Gee, S. (1888). *St. Barts Hosp. Rep.*, **24**, 17.
 Howland, J. (1921). *Trans. Amer. ped. Soc.*, **33**, 11.
 Landsteiner, K. (1905). *Zbl. allg. Path. path. Anat.*, **16**, 903.
 May, C. D., McCreary, J. F., and Blackfan, K. D. (1942). *J. Pediatr.*, **21**, 289.
 Parsons, L. G. (1932). *Amer. J. Dis. Child.*, **43**, 1293.
 Paterson, D., Pierce, M., and Peck, E. (1944). *Arch. Dis. Childh.*, **19**, 99.
 Shohl, A. T., May, C. D., and Shwachman, H. (1943). *J. Pediatr.*, **23**, 267.
 Still, G. F. (1918). *Lancet*, **2**, 163, 193, 227.
 West, C. D., Wilson, J. L., and Eyles, R. (1946). *Amer. J. Dis. Child.*, **72**, 251.

A STUDY OF BREAST-FEEDING IN A MINING TOWN

BY

ENID L. HUGHES, M.B., B.S., M.Sc., D.C.H.

Assistant County School Medical Officer, Northumberland

This work is a study of the incidence of breast-feeding during the five war years, 1941–5, in Newbiggin-by-the-Sea, a small town on the coast of Northumberland, and continues a similar study of the babies born in 1940 (Hughes, 1942).

Many previous surveys of this problem have been weakened by the fact that they cover only part of the community. This is an attempt to study a whole community. Newbiggin lends itself to such an inquiry, as there is a very large attendance at the infant welfare clinic, so that a picture has been obtained of nearly 90% of the infant population. There was no social distinction at the welfare. The curate's wife and the doctor's daughter brought their babies, as did the miners' wives and local "ne'er-do-weels."

The Community Studied

Newbiggin-by-the-Sea—once a fishing village—is now a small town with a population of just over 9,000, mostly concerned in mining. The war did not hit the village very hard. There was frequent passage of enemy planes, and one stick of bombs was dropped (known locally as "Wer blitz"); the population was temporarily swollen in 1943–4 by private evacuees from the South, and in 1942 the call-up began to affect the fathers of the infant population. In 1941, 62% of the fathers of the babies here recorded were miners and 11% were in the Forces; in 1942, 49% were

miners and 25% were in the Forces; and in 1945 the figures were 46% miners and 35% in the Forces.

There was no real poverty throughout the period studied, but the larger families were perhaps less well catered for than in other places, since there are no school meals in Newbiggin. The miners' canteen was not well patronized, so that in a large family the mother's nutrition was likely to suffer.

An increase in the number of hospital deliveries is very evident over these five years. In 1940 (Hughes, 1942) midwives delivered 77% of the babies, 11.5% were doctors' cases, and 11.5% were born in nursing-homes or hospitals. By 1943 the figures were 71% midwives' cases and 25% hospital deliveries. In 1945 62% were midwives' cases, 5% doctors' cases, and 32% hospital deliveries. This change was mainly due to the difficulty of getting help in the home. Even so, it will be seen that the great majority of deliveries were by midwives.

Present Investigation

The babies here studied are those born of Newbiggin parents in 1941–5 inclusive and continuing to live there till at least 6 months old. (This excludes the babies dying before the age of 6 months, evacuee babies born elsewhere, and babies whose mothers came to Newbiggin for the birth and moved soon afterwards.) Of the babies thus defined, 89.4% attended the clinic regularly enough over these five years for details to be recorded of their dates of weaning. The actual numbers are given in Table I. (The drop in 1943 is due to my illness and absence from work for several months.) The figures for 1940, previously published, are included for comparison.

TABLE I.—Proportion of the Infant Population Studied in each Year

Year	No. Born and Lived 6 Months	No. Included in Records
1940	117	112 (95%)
1941	114	105 (92%)
1942	137	124 (91%)
1943	116	98 (85%)
1944	146	131 (90%)
1945	100	90 (90%)

The time of weaning is recorded in Table II, including also the 1940 figures. Figures of those completely breast-fed at 3 months are included. Comparison with the percentage weaned by 3 months will give the percentage who had their babies partly on the breast at this age.

TABLE II.—The Incidence of Weaning

Year	No. Recorded	Percentage Weaned by				Percentage Completely Breast-fed at 3 Months
		2 Weeks	1 Month	3 Months	6 Months	
1940 ..	112	31		57		32
1941 ..	105	32	40	67	81	30
1942 ..	124	36	45	65	83	25
1943 ..	98	25	34	47	80	30
1944 ..	131	23	37	57	83	30
1945 ..	90	27	40	59	83	24
1941–5 ..	548	29	39.5	59	82	29

This is a very high and maintained proportion of early weanings, and exceeds any other published figures I have seen.

Among those weaned by 2 weeks there is the same proportion of first babies (47%) as among the whole number recorded. It is usually stated that babies delivered by midwives are breast-fed more successfully than babies born in hospital. Here, however, 32% of all the babies delivered by midwives and 20% of those delivered in hospital were weaned by 2 weeks.

Reasons for Very Early Weaning

An attempt was made to assess the reasons for weaning before 2 weeks (162 cases, 29%). The mothers were not pressed for an explanation if they seemed unwilling, nor was there time for a detailed history of the failure of lactation. In some cases undoubtedly the full story was not given by the mother, as reference to her midwife afterwards showed. Table III gives the reasons as stated by the mothers. Some points about this table are of interest.

TABLE III.—Reasons for Early Weaning

Illegitimacy	12
Mother's serious illness	12
Child's illness or abnormality	3
Mastitis or trouble with nipples	12
Fear of recurrence of illness (usually mastitis)	7
Difficulties with baby at breast	13
Worry	4
Mothers' refusal to breast-feed	7
Domestic demands	13
Reason difficult to establish	79
Total	162

Of the 12 who weaned on account of mastitis or trouble with the nipples, eight were primigravidae. This seems important, as the fear of a repeated mastitis is a potent discouragement in attempting to feed a second child. When the baby had difficulties at the breast—e.g., sleepiness or fighting with the breast—breast-feeding was often given up after only three or four days of trial. Of the women who said they did not want to breast-feed four were primigravidae. Reasons given were, "Want to get about," "Too embarrassed," "Too old at 46." However, the most striking thing is that for nearly half the women who weaned by 2 weeks no reason was satisfactorily established.

It was felt that the views of the "people on the job"—i.e., the midwives—were important in studying this problem. There are three midwives working in Newbiggin. Two are employed by one nursing association, towards which the colliery subscribes. The elder of these midwives has been working for 22 years in Newbiggin and the patients "are able to tell her anything." She and her young assistant are quite sure that a large number of young mothers do not wish to breast-feed because it ties them, prevents them going to dances and the pictures, and may spoil their clothes. She thinks this began when the dried milk became cheap. She knows many cases where the young mother is quite open in her determination before the confinement not to feed her baby. In her experience trying to overrule this results only in a breast abscess, as the mother will resort to a bottle when the nurse is not there, and if hospital-confined will wean immediately on coming out of hospital. "They know breast-feeding is the right thing but they won't be tied."

The third midwife is employed by another nursing association and has perhaps a slightly different clientele from the other two. She was a highly trained hospital sister before coming on the district, and has been working here seven years. Although she thinks there is a large element of truth in the views just set out, she sees a social background to much of this early weaning. In her opinion early weaning is much more likely where the mother is living with her in-laws. In such cases there is little chance of privacy, the mother is embarrassed at exposing her breast before her mother-in-law (and possibly other members of the family). The sense of outraged modesty affects the baby, who begins to "winge" (whimper), and in a few minutes the mother-in-law will say, "That's not feeding the bairn; you'll want to get summat that'll satisfy it. Gi'e 't summat in a bottle."

She also points out that in these colliery houses where several men are working shifts there is nearly always a man in bed trying to sleep. The baby must be kept quiet. The baby, in a pram, is usually in the living-room, as these

houses generally open on to the pavement and have very small backyards. An older woman may encourage the mother to bottle-feed, as then there is "always a way of hushing the child if the mother is out." This midwife states also that it is "quite impossible" for fisherwives to feed their babies, as the custom is for them to start work on the nets directly they are out of bed.

On this question of the fisherwives, I am indebted to Dr. Stephenson, who has been in general practice in Newbiggin for many years, for the following information: "I fear that some of the young fisherwomen now wean early, but their mothers and grandmothers did not wean until 12 months. So far as I can remember, and from questions put to fisherwomen, these amazingly hard-working women brought up all their children on the breast. They baited at least one line a day (700 hooks), cooked the family meals, produced the children, fed them on the breast, helped to pull the boats up when the men came back with the fish about 11 a.m., helped to carry the fish up, baked the bread, did the washing and ironing, cleaned the house, bathed the children, went to bed about 9 p.m. and got up again about 4 a.m. to get the men ready for the morning's fishing. . . . In the palmy days before the mine, when Newbiggin was a holiday resort, some of the fisherwomen even acted as wet-nurses for the delicate children of visitors."

Comparison with Other Parts of the County

How does Newbiggin compare with other colliery districts? Are these early weanings as common in the rural areas of Northumberland? In order to throw light on these questions a survey was made of the health visitors' records in six areas in the county, covering all the children born in 1944 and 1945 (wherever they were born) and now living—i.e., aged 3 and 4 years—in these areas (620 cases). These records are comparable with each other, but not strictly comparable with the Newbiggin cases, which related to all babies who lived to 6 months.

The information sought was whether the baby was weaned before or after the age of 1 month. It was found, however, that in most districts only 70 to 80% of the cards could give this information, and it was not considered that this was an accurate picture. In one district, however—Allendale, a rural hilly area—96% of the cards had this information, and in one mining area—Shiremoor—with a population very similar to that of Newbiggin, 83% of the cards gave the desired information. These figures are given in Table IV.

TABLE IV.—Comparison of Rural and Mining Areas (Health Visitors' Records), Northumberland

District	Total No. Born 1944-5 now Living in District	No. Weaned Before 1 Month	No. Weaned After 1 Month	No. of Incomplete Records
Allendale (rural) ..	92	20 (22%)	68 (74%)	4 (4%)
Shiremoor (mining) ..	138	51 (37%)	64 (46%)	24 (17%)

It is clear that these numbers of cases are too few to carry much weight; but it is highly suggestive that Shiremoor, with a mining population very like Newbiggin, has at least as great a proportion of early weanings, and that this is in great contrast to a rural district. It is interesting that in the Allendale district the health visitor reports that most young couples manage to have a place of their own and to avoid living with "in-laws." Not only does this mean privacy but it means that there is no older woman to keep house and give a bottle if the mother goes out. It is obvious that there is no statistical evidence here either to support or to refute this as a predisposing factor in early weaning, and that many other factors may be involved.

Discussion

The large numbers of early weanings in Newbiggin contrast forcibly with other investigations on the subject. The Ministry of Health Report (1944) estimates that 95% of babies born in the district are wholly breast-fed when the midwife leaves. Finlay, quoted by Spence (1938), in a home-visit investigation of 3,000 cases in Edinburgh found that 87% of the babies were breast-fed at the 10th to 14th day. Robinson (1939), analysing 439 Liverpool welfare cases, found that 86% were breast-fed at 2 weeks.

A report to the British Paediatric Association, 1942, on breast-feeding in Birmingham (with special reference to female labour) shows similar figures—e.g., in 1937, in 13% of 4,378 cases the children were not breast-fed at the first visit. Similar figures occur in 1941 and 1942. These investigations, however, do not cover whole populations but deal with selected groups.

Why, then, the Newbiggin figures? In the main work described here the data were collected by me from the mothers at the infant welfare centre. Nearly all the dates of weaning were noted within a few weeks of the occurrence, and in the many cases of weaning by 2 weeks it was noted at the first attendance, usually at 3 to 4 weeks of age. This was done simply as an easy way of getting the facts as soon as possible. Later, however, I began to wonder if it were not a rather important point. In asking several mothers about the feeding of previous children two or three years back I was able to check their accuracy with the week-to-week records kept at the time, and the replies very often diverged from the recorded facts—i.e., the child would be said to be weaned at 3 months when it was actually 5 weeks. Indeed, my own figures for 1943 (see Table II) are open to this doubt, since illness prevented me from collecting some of the data as promptly as usual.

This experience raises a doubt about the accuracy of dates of weaning recorded in large-scale investigations relating to a year or two back. So long as breast-feeding is held to have the moral value referred to in the Ministry of Health Report, so long surely will mothers tend to give an "acceptable" reply when asked about the weaning of their children. Indeed, this moral atmosphere probably colours all replies on the subject. My experience of analysing health visitors' records suggests, too, that the first visit may be at a very variable time after the birth.

Attention has been directed by the work of Robinson (1943) and of Waller (1946) to the physiological mechanisms inherent in lactation. No attempt has been made in this work to assess the factor of overloading (Waller, 1943, 1946) in the early weaning, and it may exist in cases unsuspected even by experienced midwives.

Undoubtedly there seems here to be a large social element. Custom or fashion, overcrowding, lack of privacy, and the presence of an older woman who will quite literally "hold the baby" are all possible contributory causes.

Do colliery districts in other parts of England present similar problems? Is overcrowding a factor elsewhere? Is the desire "not to be tied" an unexpressed but important cause? And is there support in other counties for the suggested difference here between mining and rural areas?

Summary

The incidence of breast-feeding has been studied over five years in a mining town in Northumberland (548 cases, forming 89.4% of the babies born and living there 6 months). It was found that 29% of these babies were weaned by 2 weeks and 39.5% by 1 month of age. These figures are supported by health visitors' records for 1944-5 in another mining area, and a contrast is suggested with a rural area. Further investigation of these differences seems advisable.

The cause of the large number of early weanings is discussed.

I wish to thank Dr. Stephenson, of Newbiggin, for the information quoted, and the health visitors and midwives for their ready help and co-operation. I also thank Dr. Jamieson, county maternity and child welfare officer, for the interest she has shown, and Dr. Tilley, county medical officer of health, for permission to publish this work.

REFERENCES

- Hughes, E. L. (1942). *British Medical Journal*, 2, 69.
Ministry of Health (1944). Reports on Public Health and Medical Subjects, No. 91.
Robinson, M. (1939). *Arch. Dis. Childh.*, 14, 259.
— (1943). *Lancet*, 1, 66.
Spence, J. C. (1938). *British Medical Journal*, 2, 729.
Waller, H. K. (1943). *Lancet*, 1, 69.
— (1946). *Arch. Dis. Childh.*, 21, 1.

SURGICAL SIGNIFICANCE OF AORTIC DISSECTING ANEURYSMS

REPORT OF THREE PERSONAL CASES WITH TWO CORRECT ANTE-MORTEM DIAGNOSES

BY

D. P. VAN MEURS, F.R.C.S.

Surgeon, County Hospital, Farnborough

The symptoms caused by aortic dissecting aneurysms occasionally suggest surgical abdominal disease. Although about half the sufferers from this condition succumb in less than 12 hours, it is not uncommon for death to be postponed for over a week, and recovery for a varying period, though infrequent, can occur. Hence a correct diagnosis, or, at the worst, recognition of the condition at operation, would be of great assistance from the point of view chiefly of prognosis and also in the event of any reasonably successful form of treatment being devised.

The condition has rarely been diagnosed ante mortem. Shennan (1934) could find records of only six such cases, although about eight others have been described since. It is possible that more frequent correct diagnoses could be made were the condition borne in mind, and it is felt that a brief summary of the pathology, symptoms, and physical signs, together with the details of three personal cases, would be of value.

Pathology, Symptoms, and Physical Signs

Pathology.—The condition probably arises from a tear in a diseased medial coat (Moriani, 1910), the immediate exciting factor being a temporary rise in blood pressure. Less commonly an atheromatous plaque may determine the site of rupture. Syphilis is rarely associated. The split is most commonly situated in the ascending aorta and occurs less often as the vessel is traced downwards. The dissection is rarely localized and sacular, but usually spreads for a variable distance downwards, and has been known to reach the popliteal arteries (Tessier, 1842). Proximal dissection, though usually slight, may be extensive. Death is usually caused by rupture, most commonly (70%) into the pericardium, but also into the mediastinum, pleural space, peritoneal cavity, or retroperitoneal tissues. The aneurysm may rupture back into the lumen of the vessel, although this course does not necessarily prevent rupture to the exterior. There is little relation between the site of the tear, the length of the dissection, and the time of survival.

Symptoms and Signs.—The onset is rapid, and is often associated with physical or emotional strain. There may be a feeling of something suddenly giving way in the thorax, with a sensation of choking. Sudden pain may be felt in the thorax, abdomen, or back, and it may be substernal, epigastric, or, characteristically, girdle in type. The pain is frequently intermittent, resembling colic, and may be accompanied by nausea or faintness. These attacks of pain