was diminishing foetal movements, and caesarean section was thought to be the ideal method for this patient. Mollison and Walker concluded that premature delivery was contraindicated from the consideration of the mortality rates in a series of cases, "the choice of treatment being determined by random numbers" (Mollison, Mourant, and Race, 1952). We feel that each case should be treated individually according to its clinical merits.

In view of this case, it would seem that there is still a place for premature delivery of the infant in cases of haemolytic disease of the newborn. The indication for such treatment would be a patient with a history of two or more stillbirths, whose husband is homozygous, Rh-positive. We suggest that diminution of foetal movements is a symptom of importance, that it requires the case to be treated as an emergency, and that premature delivery should be carried out in a hospital equipped both for replacement transfusion and for the care of premature babies. It also demands the daily supervision of the patient in the last weeks of pregnancy, especially in cases that show by the pattern of their history that they are liable to produce severely affected infants. Mollison and Walker showed that "the total death rate in the 'induced' group is higher than in the group allowed to go to spontaneous delivery." However, in our experience premature delivery can produce a live birth instead of a stillbirth; and, even though the baby is premature, kernicterus can usually be prevented by one or more adequate replacement transfusions. In the group of severely affected cases of haemolytic disease of the newborn there is the opportunity of rearing a normal living child by premature delivery, and to achieve this the complete co-operation of the obstetrician and paediatrician is essential.

Summary

A case of rhesus iso-immunization of severe type is described.

After several stillbirths, two living babies were delivered prematurely by caesarean section.

The symptom of diminution of foetal movements in two severely affected babies is described.

This symptom is an indication for premature delivery of the foetus in order to prevent another stillbirth and in order to give a possibility of survival.

With the close co-operation of the obstetrician and paediatrician this can be achieved.

We acknowledge the help given by Dr. W. Weiner, of the Birmingham Regional Blood Transfusion Service, and the medical and nursing staffs of Solihull and Sorrento Hospitals, who so willingly assisted in the care of this patient and her babies.

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Last July the Standing Conference of Societies Registered for Adoption held a conference at Roehampton, a report of which is now available. Papers were read and discussed on co-operation between adoption societies and local authorities, co-operation in case work, the point of view of the natural mother, heredity as it concerns adoption, and difficult placement. Discussion centred on legislation that is required to prevent the private placing of children for adoption (even by the children's own mothers), the complex factors entering into any estimate of heredity, the placing of older and handicapped children, and a plea for greater confidence in placing children in good adoptive homes even though their social background is poor. The report is obtainable from the honorary secretary, Gort Lodge, Petersham, Surrey, price 5s.

INCARCERATED AND STRANGULATED INGUINAL HERNIA IN THE FIRST YEAR OF LIFE

REPORT ON 45 CASES

BY

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The incidence of strangulated hernia in the first year of life is variously reported by different authors, perhaps owing to the lack of uniformity in the definition of "strangulation." It is usually considered that an incarcerated hernia is an irreducible hernia in which there is obstruction to the passage of intestinal contents, and that a strangulated hernia is an irreducible hernia in which there is interference with the blood supply of the bowel, irrespective of whether or not the gut is viable. If, therefore, in any series, only those cases are recorded in which the gut is strangulated, the incidence is obviously lower than if incarcerated hernias are also included. But, clinically, incarceration can prove as dangerous as strangulation, and, in fact, in three out of five fatal cases in the present series no strangulation was present.

Incidence

The incidence of strangulation in inguinal hernia in infancy varies from the statement by Stammers (1951) that "in a long experience of children's surgery I have never seen a strangulated irreducible inguinal hernia" to those of Potts *et al.* (1950), who say that 19% of their series were incarcerated. Thorndike and Ferguson (1938), in a series of 1,740 herniorrhaphies in children, found "strangulation" in 106, of which 45 occurred in the first year of life—"true strangulation," however, was present in only five cases.

According to Potts *et al.* 70% of all congenital inguinal hernias occur on the right side. Strangulated inguinal hernia is also much more common on the right side, Thorndike and Ferguson reporting an incidence of 80% in children up to 12 years of age.

The sex incidence is even more striking. Uncomplicated inguinal hernia is nine times more common in male than in female infants (Herzfeld, 1938), while strangulation was reported by Thorndike and Ferguson to occur in 25 males to every one female. When strangulation does occur in the female, the Fallopian tube and ovary are often found in the sac.

The age incidence of strangulation is remarkably constant, the greatest number of cases up to the age of 12 years being found in the first year of life, and most of these occur in the first three months; about 50% of Thorndike and Ferguson's 45 cases were under 3 months of age.

Presentation of Cases

The present series comprises 45 infants under 1 year of age: 43 were treated in the United Cardiff Hospitals during the past six years, one was seen at St. David's Hospital, Cardiff, and one at the East Glamorgan Hospital, Church Village. Fifteen of the children were seen personally by one or other of us.

The sex ratio was similar to previous series; only once did the condition occur in a girl; in this case the hernial

sac contained the right ovary. In all but three cases the offending hernia was on the right side, although in four cases a left inguinal hernia which could easily be reduced was present. In one of the left-sided cases a right-sided hernia was also found, but this was reduced by taxis. The age incidence is given in Table I.

TABLE I.—Number of Cases Per Month of Life

Age in Months	No. of Cases	Age in Months	No. of Cases
0-1	11	6-7	6
1-2	12	7-8	2
2-3	4	8-9	0
3-4	3	9-10	1
4-5	1	10-11	1
5-6	3	11-12	1

In the accompanying graph the age incidence is arranged so as to be comparable with the figures given by Thorndike and Ferguson. The cases in our series may be divided into two groups.

Showing age incidence of the 45 cases of the present series (o-o-o) compared with the 45 cases of Thorndike and Ferguson (x-x-x).

Group 1

This group consisted of infants who presented with signs and symptoms of intestinal obstruction—vomiting, abdominal pain and distension, and constipation or sometimes the passage of blood-stained mucus. There were 29 children in this group. Most of them were under 2½ months old, and the hernia had sometimes been present for only a few hours before the onset of the obstructive symptoms.

Indeed, in about one-third of the cases the symptoms started before the hernia appeared. This often led to difficulty and delay in diagnosis. Table II shows the various diagnoses with which the children in Group 1 were sent into hospital.

TABLE II.—Diagnoses on Admission to Hospital of Children in Group 1

Diagnosis	No. of Cases
Strangulated or irreducible hernia	22
Diarrhoea and vomiting	2
Vomiting, ? cause	2
Intestinal obstruction	2
Pyloric stenosis	1
	29

It is possible that the hernia was sometimes missed because it was not searched for. Babies tend to have a roll of fat in the groins, and an inguinal hernia is quite small and easily overlooked, as the following case illustrates.

Case 6.—A 14-day-old baby, birth weight 6½ lb. (3.1 kg.), was admitted to hospital with a diagnosis of gastro-enteritis. He had been well until two days before admission, when he started to vomit his feeds and have screaming attacks in which he drew up his legs. The vomit soon became blood-stained. He was constipated at first, but just before admission passed two pink liquid stools. On examination (J.R.S.), he was seen to be a moribund dehydrated baby, vomiting foul yellow fluid. His abdomen was very distended, but no hernia was noticed. When seen by a surgeon (Mr. Foster) about half an hour later, a right inguinal hernia was observed which reduced quite easily. Despite this the child died within a few hours. At necropsy the peritoneal cavity contained 2-3 oz. (57-85 ml.) of sero-sanguineous fluid. A Meckel diverticulum ½ in. (1.3 cm.) long was present which was normal, but the adjoining gut was covered with petechial haemorrhages and had probably been contained in the hernial sac.

All the five deaths (18% of Group 1) in this series occurred in Group 1. Brief details of these are given.

Case 11.—A premature twin boy, birth weight 3 lb. 1 oz. (1.6 kg.), was admitted when 10 weeks old with a history of three days' vomiting, constipation, and abdominal distension. He had had bilateral inguinal hernia for three weeks. The child was so ill that a blind ileostomy was performed, but seven days later he suddenly died. At necropsy the bowel was found to be loosely obstructed in a right inguinal hernia.

Case 16.—A 4-months-old boy was admitted with a history of vomiting, constipation, and a lump in the right groin for two days. The child was very ill, and at operation the gut in the hernial sac was found to be gangrenous, and was resected. The child died a month later from an abscess at the site of the gut resection.

Case 17.—A 2-weeks-old boy, birth weight 5½ lb. (2.5 kg.), was admitted with a history of two days' vomiting and constipation. A small right inguinal hernia was noticed; this was reduced, but as the child's condition did not improve a laparotomy was performed. This revealed an annual constriction at the terminal ileum, caused by the hernia, but no obstruction was then present. The child died four days later. Necropsy revealed a generalized peritonitis.

Case 27.—A 5-weeks-old boy was admitted with a history of vomiting for three days. His stools had been a mixture of blood and mucus and his abdomen was distended. Apparently no hernia was noticed, but at laparotomy a loop of gut was found to be entering the right hernial orifice. It was thought that the baby also had a volvulus. He died eight days later, and at necropsy gangrenous areas of small gut were found and a volvulus was still present.

In this series successful gut resection was performed only once, and this was on a child in Group 1.

Group 2

Group 2 consisted of 16 children with an irreducible hernia, without obstruction or with only minimal symptoms of obstruction. The babies were all over 2 months' old, and the hernia had in almost every instance been noticed previously. There were no deaths in this group.

Discussion

To facilitate comparison the total number of patients with intussusception under 1 year of age operated on in the United Cardiff Hospitals during the comparable six-years period was computed. These amounted to 67, of whom only five were under 3 months of age. Apart, therefore, from congenital abnormalities of the intestine, which are usually manifested within the first week of life, strangulated hernia is the commonest cause of intestinal obstruction under 3 months. Pyloric stenosis should not be confused with it, as the onset is less abrupt, abdominal distension is confined to the upper abdomen, and a pyloric tumour is always palpable. The only other cause of intestinal obstruction in this age group is acute infantile Hirschsprung's disease—again a condition which is almost confined to boys. This rare disease can present as intestinal obstruction, with vomiting, constipation, and gross abdominal distension. After rectal examination there is often a dramatic improvement with the passage of quantities of wind, the abdomen deflating visibly. The diagnosis may be confirmed by a barium enema.

If a hernia is not easily reducible the child should be given chloral, the foot of the cot elevated, and a cold pack placed on the hernia. It is probably justifiable to persevere with these measures for three hours. At the end of this time, or as soon as a severely ill baby has been resuscitated, operative reduction of the hernia should be performed.

Summary

Forty-five cases of incarcerated inguinal hernia under 1 year of age have been studied; of these 44 were in boys, and 42 were on the right side.

The cases have been divided into two groups: Group 1, presenting with symptoms of intestinal obstruction, comprised mainly the younger babies, in whom often

no hernia had been noticed before. There were 29 babies in this group and 18% of these died.

Group 2 consisted mainly of older babies in whom an easily reducible hernia had been observed previously, but in whom the hernia had suddenly become irreducible; obstructive symptoms were minimal. There were 16 babies in this group and no deaths.

It has been shown that, in the age group 1 week to 3 months, strangulated inguinal hernia is the commonest, almost the only, cause of intestinal obstruction.

Owing to the ease with which an inguinal hernia can be missed in a baby, it is essential that the inguinal region should be carefully examined in every infant presenting with symptoms of acute intestinal obstruction.

We wish to express our thanks to the surgeons of the United Cardiff Hospitals for permission to use the notes of cases under their care, and to Professor A. G. Watkins for his criticism and advice.

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CHANGES IN DENTAL HYPOPLASIA AND CARIES AMONG THE CHILDREN OF FINNISH LAPPS, 1939-50

BY

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In 1939 a small survey of Finnish Lapps was made in order to discover the state of dental health among children living a semi-nomadic existence far from civilization (H. Mellanby, 1940). Since that time Europe had been at war for six years and for seven more has enjoyed a precarious peace. It was thought that these disturbed living conditions might be reflected among other ways in alterations in the structure of the children's teeth and their susceptibility to decay. For this reason the present survey was undertaken during the summer of 1950.

Most of the children examined belonged, as before, to the Inari Lapps, but a few families of nomadic Fell Lapps were also inspected. Since the ceding to Russia in 1944 of the Petsamo area in the far north of Finland, the Skoltje Lapps have ceased to exist as a separate entity. Some have become Russian subjects, while others are scattered throughout the rest of Finnish Lapland. The Fell Lapps inhabit the Enontekio and Kilpisjarvi districts, sandwiched between Sweden and Norway (see Map). In this area a walk was made from Hetta northwards to the Norwegian border in the company of the local postman, three "summer villages" being visited. A few more children were seen in schools at Karasundo, on the Finno-Swedish border, the total number of Fell Lapps inspected being ten. Ninety-two Inari Lapps were seen in Vuotso and in Lapp huts scattered along the length of the Utsjoki river and the Finnish bank of the Teno river from Utsjoki to Karagasniemi.

Methods

Only the deciduous teeth of pure Lapp children between the ages of 2 and 14 years were examined, a distinction being made between pure Lapps and half-castes. Some of these half-castes were Finno-Lapps (whose numbers are steadily increasing as the Lapp population becomes less isolated), but

FINNISH LAPLAND, 1950

the majority were German-Lapps, a permanent reminder of the German occupation between 1941 and 1944.

Each mouth was inspected with an illuminated mirror and a standard probe. The structure of the teeth was estimated by the method described by M. Mellanby (1927a, 1927b, 1934), the grades of M-hypoplasia being judged by rubbing a sharp pointed probe over the labial surface of the teeth. The extent of caries in each tooth was also judged by the same method as that used by Mellanby (1934), the Dental Disease Committee (1936), and Mellanby and Mellanby (1948), being estimated as caries 0, 1, 2, or 3 according to the size of the cavity. To obtain average hypoplasia and caries figures the total hypoplasia and caries figures for each group were added up separately and divided by the number of teeth examined for structure and caries. This gave the average hypoplasia figure (A.H.F.) and average caries figure (A.C.F.). A measurement of the extent of healing caries was not attempted.

Results

The results are compared throughout with those obtained in the 1939 investigation by Dr. Helen Mellanby.

Structure of Inari Lapp Children's Teeth.—When the structure of the deciduous teeth of these Inari Lapp children is compared with that found in 1939 (Table I), there is seen to be a slight increase in the A.H.F. The considerable deterioration in structure of the complex teeth (molars) since 1939 has been incompletely counterbalanced by the improvement found in the incisors and canines. However, further analysis of the results into various age groups, as set out in Table II, shows that this general picture is erroneously simple. While the A.H.F. of the 2-5-years age group was slightly below the 1939 total average of 1.09, that of the 6-9-year-olds was higher. There were too few children