Analysis of the necropsy findings in stillbirths in the first and second two and a half year periods of the Blackpool survey showed that the improvement had occurred in the maceration only and antepartum asphyxia groups; 85% of the babies in these categories were born in consultant units, and the antenatal histories were studied in detail. The major pregnancy abnormalities were pre-eclamptic toxæmia and hypertension, and antepartum hæmorrhage. These had not declined in incidence, but were associated with fewer stillbirths, although the differences were not significant. In cases of toxæmia, an increase in the Cæsarean section rate may have helped to improve the fœtal salvage. However, in the maceration only and antepartum asphyxia groups, most of the fall in the number of babies occurred in mothers with no detectable abnormality of pregnancy, so the reason for the improvement remains obscure. It has been suggested that the lower perinatal mortality in the area was due to interest in the problem stimulated by the survey. This is unlikely to be the sole explanation as the improvement was not in the intrapartum asphyxia and birth trauma categories, for example, but mostly in cases of antepartum fœtal death which were unassociated with complications of pregnancy.

Although the first-week death rate remained unaltered, there were significant changes when the babies' weights were considered. The mortality of babies born in the consultant units and weighing 2,500–1,000 g fell from 17% in the first period to 12% in the second, due to a significant fall in the incidence of pulmonary syndrome of the newborn since delayed ligation of the cord, with gravity assisting the transfer of blood to the baby, was introduced as a routine procedure (Bound *et al.* 1962). Unfortunately, the improved survival rate in small babies was offset by more deaths amongst babies weighing over 2,500 g. The poorer results in this group were due to an increase in deaths from congenital malformation and pneumonia.

The larger number of fatal malformations was due entirely to central nervous and cardiac lesions which were not amenable to successful surgical treatment. They reflected a rise in the incidence of severe malformations from 7·5 to 9·1 per 1,000 births over the two survey periods.

The additional deaths from pneumonia occurred in cases of fœtal distress or complicated labour with delivery by Cæsarean section or forceps. Most babies died on the first day. It is hoped that a reduction in these deaths will be achieved.

In conclusion, the most notable trend was the displacement of the pulmonary syndrome by congenital malformations as the commonest single cause of first-week neonatal death in the second half of the survey. Malformations then accounted for 27% of such deaths in the area.

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The Syndromes of Pseudoglioma

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The clinical term 'pseudoglioma' was used by Treacher Collins to describe any lesion of the eye liable to be mistaken for true glioma (Sanders 1952). A wide variety of processes can give rise to this lesion in infants (Dollfus & Auvert 1953), but in most cases the basic lesion is a detached retina. Pseudoglioma plays an important part in several rare syndromes in infants. This is demonstrated by 6 cases covering five syndromes.

Case 1 S B, female, aged 18 months
The only child of healthy parents. At 3 months she was blind, with microphthalmic eyes and bilateral pseudogliomas; these were not enucleated and the pathology is unknown. At 18 months she is slightly retarded with a small head circumference. She has frequent minor convulsions with hypsarrhythmic changes in the EEG. There is no evidence of toxoplasmosis. No satisfactory diagnosis has been reached, but the eye lesion appears part of a widespread cerebral disorder.

Case 2 B S, female, aged 4 years
The second child of healthy parents; the other, a boy, is alive and well.

B S shows the full Bloch-Sulzberger syndrome: bilateral pseudogliomas, severe mental retardation, hemiplegia, convulsions, and classical skin lesions of incontinentia pigmenti.

After an acute neonatal cerebral disturbance she had a new illness at 3 months, with a morbilliform rash, which proved the precursor of the pigment lesion. The eye lesions were found at the age of 8 months. The chromosome pattern and amino-acid excretion are normal.

The various elements of this syndrome are well documented, but seldom all in one case. The original case of Bloch had pseudoglioma, and this is said to occur in 10% of recorded cases of incontinentia pigmenti (Cole & Cole 1959).

Case 3 S G, male, aged 2 years
The first and only child of healthy parents. At birth there was a hard subcutaneous mass in the peri-anal region, and several small nodules in the skin of the legs; one of these was removed; it was benign and angiomatous. At 3 weeks unilateral pseudoglioma was noted; the eye was removed, and a nonmalignant detachment was found; the other eye is normal. At the age of 6 months there was a palpable swelling in the upper end of one humerus; X-ray showed cystic changes in this and in other long bones; these lesions are presumed to be angiomatous. He now has a fine angiomatous mottling of the trunk and a generalized lipodystrophy. He is now 2 years old, well and otherwise normal.

Without intracranial lesions this is not the von Hippel-Lindau syndrome, but seems very close to it. Case 3 is very like one described by Sanders (1952) with pseudoglioma, lipodystrophy and multiple skin angiomata. Von Hippel (1931) noted that in the differential diagnosis of pseudoglioma the presence of multiple skin angiomata should lead to the suspicion that the eye lesion was similar in origin.

Cases 4 and 5 A W, male, aged 4, and S W, male, aged 3; brothers

The only children of healthy parents. In infancy each was found to be blind, with microphthalmic eyes and pseudoglioma. In A W one eye was removed, and a nonmalignant detachment was found. Both children are now severely retarded. The chromosome pattern and amino-acid excretion are normal.

This is the congenital retinal detachment described by Clarke (1898). It follows the sex-linked recessive inheritance pattern. In the W family a male cousin of the mother is affected.

Case 6 S G, male, aged 5
The only child of healthy parents. He has a hitherto unreported syndrome comprising bilateral pseudogliomas, cleft palate, mental retardation, high-tone deafness and dwarfism with a widespread bone disorder. The last is most evident in the metaphyses of the long bones, but many other bones are affected. There are no accompanying biochemical changes. His chromosome pattern and amino-acid excretion are normal.

These five syndromes illustrate the wide variety of conditions in which retinal detachment and pseudoglioma play a part. In none are the pathological processes fully understood, but the clinical patterns are clear cut. When pseudoglioma is found in infancy the presence of one of the concomitant disorders, or family history of a sex-linked recessive condition, should make it possible to establish the diagnosis without recourse to the removal of an eye.

Much work on these syndromes remains to be done; it is hoped that this will be the subject of later reports.

Acknowledgments: I wish to thank Mrs M E Younger of the Royal National Institute for the Blind, and many others in that organization for assistance; Mr Robert Roaf for help with Case 6, Mr V T Lees for help with Cases 1 and 3; Dr Lindley Smith for examining the eye sections; and Dr G M Komrower, Dr B Marsden and Miss V K Wilson for work on the chromosomes and amino acids.

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The Techniques of Auditory Testing by EEG during Sleep

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The rhythmical discharges which are seen during the sleep electro-encephalogram are seen to vary with the depth of sleep. In light sleep the record is characterized by low voltage fast waves. As the subject passes into deep sleep the characteristic waves are slower (theta and delta waves) and of increasing voltage.

The basic rhythms of the sleep record can be changed by the effect of auditory stimuli in two main ways.

There can be a suppression of the alpha rhythm in the lighter stages of sleep or the appearance of a complex which was first described by Davis *et al.* (1939) as the K complex. This consists of two components – the slow high voltage waves, and the fast low voltage waves. These workers found the complex to be most evidently seen in the light stage of sleep where delta waves are evident. The K formation disappears with deep sleep.

Roth *et al.* (1956) suggest that the K complex bears some relation to arousal and that it is a physiological correlate of a crude perceptive process. Work by Oswald *et al.* (1961), using selected names as the auditory stimulation,