I have had cases in which, though the head could not be pushed in clinically, the film showed that it would pass. In one case I was so doubtful that a week after the expectant date I took the patient to the theatre for examination under anaesthesia and probably for Caesarean section. Under the anaesthetic the head would partially enter the brim. In view of this and the definite radiological report I ruptured the membranes with a Drew Smythe catheter, and spontaneous delivery of a living child followed during the next twenty-four hours. There were other very doubtful cases in which this simple radiological aid was of the greatest help to me.

I am convinced that this method is of great value in cases of disproportion. The films should be taken as near the expectant date as possible if the fullest aid is to be obtained from them.

ADDENDUM

The method of estimating disproportion described in this paper depends upon the fact that if any diameter of the head and the true conjugate of the pelvis are equidistant from the film the magnification of these is the same. Hence it can only be of use in vertex presentations with the head central in the pelvis. It gives no information in any other presentation or in cases of outlet contraction. In spite of these limitations it is of considerable value to the obstetrician, because it is in the true conjugate diameter that disproportion is most often encountered.

Examination of the antero-posterior and lateral views of the pelvis enables the radiologist to see if the head is lying transversely or obliquely: as already stated, if the foetal head lies obliquely in the pelvis a diameter larger than the biparietal is projected. In a high percentage of cases clinically suspected of disproportion the lateral radiograph shows that there is a large clearance between the size of the foetal skull and the true conjugate, and disproportion can be excluded. The question of what relation between the foetal skull and the true conjugate constitutes disproportion is a real difficulty. Mere direct comparison of the size of the bony parts is clearly not sufficient, because there are always unknown factors—e.g., the degree of moulding and the thickness of the soft parts—to be considered. The radiologist must therefore make his rules of interpretation from experience of what happens in labour.

In the above series of cases the rule has been used that where the biparietal diameter is greater than the true conjugate disproportion exists; where it is equal to the true conjugate the head will only go through with moulding; and where it is less than the true conjugate no difficulty from disproportion need be anticipated. It may be that this rule will have to be altered as a result of further experience, but enough has been learnt to show that it is not far from the truth. In those cases in which the head is lying obliquely and in which the oblique diameter of the skull projected is greater than the true conjugate it is not possible to be certain whether disproportion exists or not.

As to the actual radiography, the lateral films may be taken with the patient lying on her side or, if a vertical Potter-Bucky is available, standing with the arms supported on the back of a chair. The hips should not be flexed, as this may cause the shadow of the symphysis to be hidden by the shadows of the femora. To be of use the film should not be far from a true lateral as judged by the superimposition of the shadows of the femoral heads.

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SULPHANILAMIDE IN LOCAL TREATMENT OF SKIN INFECTIONS

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Localized infections of the skin such as sycosis and impetigo contagiosa have been found difficult to heal, especially when established for some time. In the Services, although these conditions are not common, the time factor and the prevention of cross-infection combine to make the problem an important one. Older methods of treatment, such as the application of ointments after bathing the lesions, are tedious and in many cases ineffective. Gentian-violet paint was not used in the following series of cases. The recent satisfactory reports of the treatment of wounds by the local application of sulphanilamide powder suggested the extension of this method to such conditions. The results have been most gratifying.

The usefulness of sulphanilamide therapy in skin diseases has been the subject of much discussion, and its value is stated by Smith (1940) to be far from understood. He reports good results in the local application of solutions and ointments to ulcers and infected burns and refers to the advantages of economy and atoxicity. Jaeger (1936) and Merz (1937) have treated skin lesions with the drugs given orally, and locally as solutions in water and glycerin: the latter applied his methods to impetigo. Buchanan (1940) points out the value of crushed tablets of sulphapyridine as a dressing for a pneumococcal ulcer, a treatment which is often of use in varicose ulceration. Under present war conditions I have been able to trace only one author who specifically mentions the use of the powder for infections of the skin: MacKenna (1940) employed it under a dressing of zinc paste for impetigo, and stated that it is often successful.

Method

The patients were treated in hospital as ambulant but isolated cases. The scabs were bathed off three or four times daily with a warm 2% solution of sodium bicarbonate. The sulphanilamide powder (streptocide) was applied direct to the raw surface, where it sticks well, and was left with no dressing. The treatment was usually carried out by the patient after the first few times, and he used more powder when required. It was of course essential to continue regular shaving in the healthy areas, and the hair was clipped short elsewhere. Frequent shampoos were given. In cases with thick masses of exudate which did not separate easily a gauze pad soaked in liquid paraffin was applied for twelve hours, and the treatment then continued, the old exudate separating readily with this application. Other oily dressings were rigidly avoided, as they were found to spread the infection. In certain cases, described below, ascorbic acid was prescribed by mouth, starting with 500 mg. daily, the dose, after saturation, being reduced progressively to 50 mg. daily.

Results

All the cases had already been treated with bathing and ointments. There was immediate and decided improvement after the application of sulphanilamide powder. The surrounding inflammation and the exudation rapidly decreased, and in three days the lesions were sterile and remained so. Case 4 (see below) was at first treated with sulphanilamide ointment, but after a week the lesions had not become sterile nor apparently had they improved. It is therefore suggested that a high concentration is necessary to destroy the staphylococcus. This is unlikely to

occur to an adequate degree when the drug is given by mouth only. There was much drying of the surface, but it was found better to ignore this and to maintain sterility. In the old-standing cases healing of the deep granulating areas was slow, and in these ascorbic acid was given. In comparison with similar cases without this addition healing was more rapid. Further stimulation of healing by ray treatment was not found necessary in any of this series. Sulphapyridine and sulphathiazole powders were not used: results were satisfactory with sulphanilamide powder, which was more readily obtainable.

Illustrative Cases

Case 1.—This patient had severe staphylococcal infection of a large part of the face, which had been treated for seven days before admission with acriflavine dressings and then with eau d'Alibour. As the condition became much worse the areas were cleaned with olive oil, and ung. hydrarg. ammon. dil. was applied. There still being no improvement, the patient was admitted to hospital and treated with sulphanilamide powder. Three days later the areas were clean and almost sterile. Healing was complete ten days after admission.

Case 2.—This case was complicated by submaxillary suppurative adenitis, the organism being *Staphylococcus albus*. There were large infected areas on the lips and chin, and the patient had been treated with bathing and ointments for ten days. The abscess was drained and local sulphanilamide treatment for the face started. He would have been fit for discharge after twelve days had he not developed measles shortly after admission.

Case 3.—This patient first began to have suppurative lesions of the face in February, 1940. He had been treated with bathing, oils, and ointments, but states that he was never entirely free. His left eye began to be painful in September, 1940, and the right eye soon followed suit. He was admitted on November 1 with severe ulceration over the upper lip and chin, with a hard exudate and deep fissures. Both eyes showed purulent blepharitis. After bathing and application of the powder the inflammation around the lesions decreased, and the eyes, for which boric lotion was used, had healed. The central parts of the lesions, which were deeply crusted with adherent exudate, were cleared with packs of liquid paraffin. Further powder was applied, and shaving or close clipping of the beard was continued throughout. On November 19 the whole area was clean and so nearly healed that the man was returned to duty. In this case ascorbic acid was given from the time of admission.

Case 4.—This was an early case of impetigo contagiosa that had been treated with ointments for four days. The affected areas were bathed and streptocide ointment was applied. After three days the lesions gave a massive growth of staphylococci; this was maintained for a week. On the seventh day treatment was changed to the powder, following which the lesions rapidly became sterile and remained so. After seven days' slow progress ascorbic acid was given; healing was then rapid and the patient was discharged five days later.

Summary

A method of treating local skin infections with sulphanilamide powder is described.

Progress was rapid in comparison with older methods.

Ascorbic acid by mouth and ray treatment are suggested for accelerating healing after the infection has been cured.

My thanks are due to Wing Commander J. M. A. Costello for permission to publish these cases and for his advice and interest.

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Medical Memoranda

Traumatic Asphyxia

It would seem that traumatic asphyxia is rare enough to warrant a typical case being put on record.

CASE REPORT

An errand-boy aged 14, after being knocked off his bicycle by a lorry, was admitted with bruising of the left hip and cuts around both knees. The most striking features, however, were his dusky complexion, his cyanosed lips, and the numerous tiny petechial haemorrhages on his face, conjunctivae, neck, and upper part of chest to the level of the second rib; they were more prominent on the left side, and it was observed that the area of skin underlying his collar and braces was unaffected. He complained bitterly of inability to swallow and of difficulty in breathing: although his respiration rate was not much increased, the depth was irregular and less than normal. He had no pain or tenderness in the chest, and physical signs were normal. His condition at the time was that of shock and asphyxia. His minor injuries were duly treated, and morphine and warmth soon relieved the shock; nasal oxygen was given for the asphyxia with the patient in a sitting position.

Two hours after admission his general condition was slightly better, though the dyspnoea and cyanosis showed no improvement; he was still unable to swallow. The petechiae in the skin were more pronounced, while those in the conjunctivae were beginning to coalesce. Oedema of the eyelids, face, and lips was noticed at this time. The dysphagia and cyanosis were slowly passing off and the breathing was a little easier twelve hours after admission. There was no white to be seen in the eyes at all. Physical signs in the chest were normal, and rib tenderness was absent. The oedema and petechial rash were rapidly subsiding twenty-four hours later, the oxygen being discontinued after a period of thirty-six hours.

Early in convalescence his chest was radiographed, but showed no abnormality. Except for a small residual quantity of blood in the conjunctivae, complete recovery had taken place, and the patient was discharged three weeks after the accident. He constantly affirmed that he did not lose consciousness, and that the lorry did not run over or even touch any part of his head, chest, or abdomen.

DISCUSSION

Cause.—It seems reasonably certain that asphyxia is due to a sudden distension of the superior vena cava and its tributaries by a sudden compression of either the thoracic or the abdominal veins. The sudden distension causes a capillary paralysis with or without rupture and extravasation of blood. The areas draining via the jugulars into the innominate veins are affected, as these vessels are deficient of valves: the same is true of the subclavian veins, when the arms also show the characteristic changes. The lack of cerebral symptoms is presumably due to the baffling effect of the large blood sinuses at the base of the brain.

Diagnosis.—The characteristic picture is seen in the case described above. The extremely clear line of demarcation of the dusky blue areas soon to be covered with petechiae calls for special attention. The upper chest, neck, shoulders, and face are the parts affected. The dyspnoea and dysphagia are typical.

Treatment.—Morphine and warmth soon relieve the patient's apprehension, but the administration of oxygen brings ease almost immediately. The latter should be continued until the patient fails to derive benefit from it.

Prognosis.—Traumatic asphyxia itself does not terminate in death. The outlook as to life is good in all cases; but as to sight the prognosis should be guarded, for atrophy of the optic nerve has been recorded.

I wish to thank Dr. J. M. Christie for permission to publish this case and for his helpful criticism.

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