the risks of lower segment section. I believe that when the history and results of examination leave a real doubt as to the safety of natural labour after a conscientious consideration of all the facts, the balance should swing to Caesarean section. A mistake is irretrievable. Trial labour, which saves us from so many errors of treatment in dealing with disproportion, has no place in the treatment of heart cases. In spite of many statements to the contrary, the lower uterine transverse operation is quite safe and comparatively easy in operations of election before the commencement of labour, and it should be chosen because of its lower mortality rate.

Special Forms of Heart Disease

In aortic disease I consider that pregnancy should not be permitted generally. If it occurs, and the case is seen early in pregnancy, the uterus should be emptied. If seen later, an attempt should be made to continue pregnancy, and to perform Caesarean section when the child has become viable. Congenital heart lesions imply bad obstetric risks. Therapeutic abortion or Caesarean section should be performed according to the severity of the symptoms. I recollect three of these cases when extreme cyanosis was present. Two patients survived Caesarean section, and were no worse than before pregnancy, but the third died ten days after the operation with gradually developing cardiac failure. On account of the pulmonary engorgement gas and oxygen anaesthesia is preferable to ether.

Patients with mild thyrotoxic states will stand labour, but should be prepared by adequate rest. Their emotional reactions should be controlled during labour by adequate calming, preferably by the administration of a barbiturate preparation. I have performed Caesarean section in three cases of advanced disease. In all of these the pulse rate

rose by thirty or forty in the first hour or two. Two of these patients have since had partial thyroidectomy.

Acute pulmonary oedema is a serious complication of pregnancy. Venesection, oxygen, and morphine are indicated; at least a pint of blood should be withdrawn. Not included in the series are two cases of lobar pneumonia, treated thus by colleagues at my suggestion. One patient recovered and the other died from intestinal obstruction. The mortality from heart failure is so constant in this terrible complication of late pregnancy that this treatment appears to offer the only chance of recovery. It should be undertaken early.

Conclusion

1. Most heart cases are capable of passing successfully through pregnancy; it is the labour which tests the heart's efficiency.

2. Therapeutic abortion is indicated principally in cases of cardiac reinfection during pregnancy, the few cases which are getting worse in spite of bed and digitalis treatment, and the more severe forms of aortic disease and congenital malformation.

3. In deciding for or against Caesarean section the general and obstetric history and the capacity for household work are the main points on which the decision turns.

4. A surgically induced labour may be, and usually is, more trying than normal labour. The risks are less easily calculated than are those of Caesarean section, and it is rarely good treatment after three months' gestation.

5. The purely operative risks of Caesarean section have been so much reduced by the lower uterine segment operation and the newer antiseptics, especially dettol, that one operates nowadays with far more confidence.

EPIDEMIC STREPTOCOCCAL ADENITIS

BY

REGINALD MILLER, M.D., F.R.C.P.

PHYSICIAN TO THE PADDINGTON GREEN CHILDREN'S HOSPITAL,
AND TO ST. MARY'S HOSPITAL, LONDON

During the influenza seasons of the last two winters there have appeared to be running, chiefly among children, epidemics of acute cervical adenitis accompanied by rigors and high fever. Although the illness induced is unusual in type and alarming in severity, H. C. Cameron¹ is, so far as I am aware, the only medical author who has recently called attention to this group of cases, and this brief article may be of help if the epidemic recurs in the next three months.

The peculiarity of these epidemic cases lies chiefly in the frequency with which rigors and up-rushes of the temperature occur. The illness as a whole simulates those severe reactions with adenitis that may follow an operation for the removal of septic tonsils; but it must be admitted that in certain influenza epidemics there may occur, chiefly in adults, cases of rigors and very high temperature without conspicuous adenitis.

Aetiological Factors

Of the cases seen, amounting to some twelve in all, all were in children except two—one a girl in her teens and the other a young adult, an undernourished film actor. The last-mentioned was the only case in which the glands suppurred. Only two of the series were seen in hospital practice, a peculiar point, presumably accidental, which has prevented thorough examination of many of the cases.

¹ Cameron, H. C.: *Clin. Journ.*, January, 1935.

Setting aside the possibility of an infection by a filterable micro-organism, the disease has the clinical appearance of an infection by a haemolytic streptococcus, as Cameron has stated. I have only been able to confirm this in the two hospital cases: a boy whose throat contained haemolytic streptococci and whose blood culture was negative; and the young adult whose glands suppurred, when a pure growth of the same micro-organism was obtained from the pus from the glands.

There is a close association between epidemic adenitis of this type and influenza. The cases seen occurred during the influenza seasons of two consecutive winters, and in some instances occurred in association with other forms of influenza in the same family. In the following instance the parents, suffering from different types of influenza, appear to have infected one child with the adenitis type, which was later transmitted from the first to the second child.

A father of two children became suddenly ill with vomiting diagnosed as "gastric influenza." After a few days this ceased and he developed a severe coryza, with sore throat and characteristic tracheitis. As these symptoms subsided his wife developed a sore throat, headache, and pains in the limbs; she, however, kept about, "living on aspirin." When the father was better he motored his wife and two children to the South Coast for convalescence. One child arrived having a rigor, with a temperature of 105° and incipient cervical adenitis. Forty-eight hours later the second child developed the same symptoms as the first.

Invasion

As a rule the first marked symptom is the sudden development of high fever, with or without a rigor, and very rapidly there develops pain in the neck from the inflammation and swelling of the tonsillar and other

lymphatic glands. These rather dramatic symptoms may be preceded by one or two days during which the child may have a slight sore throat and stuffiness at the back of the nose, as though about to develop a severe cold in the head. The local symptoms, however, remain comparatively slight.

In one instance the adenitis was not the earliest condition, but developed in the third week of an infection of influenzal type.

A boy aged 12 was taken ill at a preparatory boarding-school with vomiting lasting for three nights and two days, and accompanied by high fever without rigors. No other boy was affected. After six days, the fever having almost abated, as term had ended, he was transferred to a nursing home in London under my care. He was found to have broncho-pneumonia at the right base, with a small effusion (confirmed by radiograph). At the end of a week, as the temperature was settling and the lung clearing, he developed an enlarged, painful submaxillary gland on one side, where a lower tooth was being cut. His temperature was again raised, his spleen became palpable, and his blood showed a white cell count of 11,500, with 70.5 per cent. polymorphonuclear cells. Further glands were rapidly involved on both sides, and about three months passed before they completely disappeared.

Course

Starting in the tonsillar lymphatic glands or in those under the sterno-mastoid muscles, the adenitis rapidly spreads, and usually both sides of the neck are involved. At first the swollen glands are painful and tender, and throughout they are very hard to the touch. In only one case did they suppurate, but they take many weeks to disappear completely. With the glandular enlargement there is a moderate leucocytosis showing a relative increase in the polymorphonuclear cells.

The most curious feature of the complaint is the frequency with which rigors occur. These were seen in more than half the cases in the series, and in many instances were repeated four or five times during the illness. In one case a rigor occurred at about 3 p.m. every day for five days, and in another a rigor occurred in the fifth week of illness after the child had been seemingly better for a fortnight. With or without rigors there is a tendency for the temperature to undergo large swinging movements. When at its lowest the child, although uncomfortable, does not appear too ill; but as the temperature runs up to 103°-105° the child is very much prostrated, with a rapid pulse and a general condition which causes a feeling of anxiety. The worst of the illness is over in five to ten days, but the complete disappearance of the fever is a matter of three or four weeks.

Diagnosis: Prognosis: Treatment

In a typical case the infection is far too fierce in type to be mistaken for anything other than a streptococcal adenitis. Milder cases would lack the mononucleosis of glandular fever.

As I have seen it this disease is more alarming than dangerous. In spite of high fever, rigors, and considerable prostration, all the cases in my series have recovered satisfactorily. As complications I have met broncho-pneumonia, otitis, and albuminuria; and Cameron has recorded nephritis.

In treatment an attempt should be made to disinfect the nose and throat by means of nasal oil, sprays, or gargles, and potassium chlorate, with sodium salicylate and sodium bicarbonate, should be given internally. Sponging will be needed for the fever. The glands in the neck are usually sufficiently painful to produce a satisfactory degree of immobilization of the affected parts. It is tempting to make use of subcutaneous injections of anti-streptococcal serum (scarlatinal), but I have not myself seen it do any real good.

Discussion

It is difficult to understand why these cases of adenitis should have made their appearance in the last two influenza seasons, but it is rather characteristic of influenza that its epidemics should show these curious variations. Pneumonia, otitis, tracheitis, jaundice, and myocarditis may be mentioned as manifestations of influenza which may show a peculiar prevalence in any particular epidemic. It is, further, difficult to appreciate in what way these cases of adenitis differ from the "haemolytic streptococcal throats" which so commonly give rise to epidemics in children's medical wards. To assume that the virulence of the haemolytic streptococcus is much exalted in the adenitis cases hardly disposes of all the difficulty.

But the most interesting point arises in connexion with the rigors seen in these cases of epidemic adenitis. In their frequency and severity the rigors are unlike anything seen in other infections in children. As has already been stated, these epidemic cases resemble most closely the rather alarming reactions that may occur immediately after the removal of septic tonsils; but in such surgical cases it is generally held that the quick swelling of the glands is of good omen, setting up a barrier to a possible fulminating infection of the blood stream. It is therefore a very interesting point that in the epidemic cases, in spite of the adenitis, rigors may occur for several days and yet no ultimate harm arise from the repeated infections of the blood stream which the rigors presumably indicate.

CORNEAL GRAFTING (KERATOPLASTY)

SOME MODIFICATIONS IN TECHNIQUE

BY

H. B. STALLARD, M.A., M.D., F.R.C.S.

ASSISTANT SURGEON, ROYAL LONDON OPHTHALMIC HOSPITAL
(MOORFIELDS); CHIEF ASSISTANT, OPHTHALMIC
DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL

The purpose of this short paper is to describe certain modifications in the technique of corneal grafting which I have found helpful and of some value in working on post-mortem and living material.

An essential part of cutting a corneal graft is bevelling the deeper part of its substantia propria and that of its bed so that the graft will not slip from its bed into the anterior chamber. Elschmig and others have used von Hippel's mechanical trephine, an instrument difficult to control and liable to inflict severe damage. Tudor Thomas cuts the shelf in the deeper layers of the cornea with fine curved scissors. Castroviejo prepares a rectangular graft by incising half the thickness of the cornea with portions of razor blades set parallel 4 mm. apart in a clamp. A specially constructed bent keratome with a spear head but blunt sides is then passed obliquely into the anterior chamber at the upper extremities of the incisions and counter-punctures at the lower extremities. A blunt-ended thin spatula with one edge sharp is then passed into the anterior chamber between the two keratome incisions and manoeuvred to cut obliquely through the deeper half of the cornea on each side to join the original incisions made by the razor blades, thereby fashioning a shelf, sloping from within outwards. Von Hippel's mechanical trephine does not make a corneal shelf, Castroviejo's manipulations are made very difficult in the case of a recipient whose cornea is so far opaque that the position of instruments passed into the anterior chamber cannot be judged visually, and Tudor Thomas's work with scissors, in spite of skilful execution, causes some crushing and mutilation of corneal tissue.