Garrod (1948). Streptomycin sulphate and the calcium chloride compound behaved similarly in these experiments.

Following improvements in the dispensing and injection technique, 75 samples of streptomycin solution proved sterile on culture. We attribute this result, however, not so much to any specific changes in technique as to greater care having been taken when the hazard was understood. It seems advisable to impress on novices and occasionally to remind experienced staff that antibiotic solutions may not be self-sterilizing and that therefore they always require a rigorously aseptic technique in their use. Stable ready-prepared solutions of streptomycin have recently become available commercially, and these should reduce the danger of contamination, besides saving labour and lessening the risk of drug sensitization of staff. Samples of such a solution containing 0.25% phenol were examined. Little bactericidal action was observed over a period of 10 minutes with inocula of 10^5 streptomycin-resistant cocci per ml. of solution, and care therefore should not be relaxed even when such products are used.

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J. H. THOMAS, M.R.C.P., D.C.H.
J. MARKS, M.D., M.R.C.P.
Central Tuberculosis Laboratory, Cardiff.

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Torsion or Spontaneous Haemorrhagic Infarction of Testicle in Newborn Infant

In the newborn infant the scrotum is sometimes abnormally swollen or red, this occurring most commonly after breech deliveries. The condition is assumed to be bruising of the scrotum during delivery, and usually subsides satisfactorily. Swelling of the scrotum is also occasionally seen after normal deliveries, and may be due to syphilis, tumours, torsion of the testicle, or spontaneous haemorrhagic infarction of the testicle. Congenital syphilis is becoming rare owing to routine antenatal supervision and treatment; therefore syphilis of the testis in the newborn is also increasingly rare. Tumours seldom occur at this age: the literature is comprehensively reviewed by Campbell (1951). In a review of 95 cases of testicular tumour by Hickinbotham (1950) the youngest patient was 13 months old.

Attention has recently been drawn to the occurrence of torsion of the spermatic cord and spontaneous haemorrhagic infarction of the testicle in the newborn. Spontaneous haemorrhagic infarction of the testicle was first described as a separate entity by Campbell (1937) and later by MacLean (1943) and Ravich (1947). From the description given by Campbell it appears that there is no way of distinguishing between torsion and spontaneous haemorrhagic infarction of the testicle except by exploration at operation. Campbell assumed that as no torsion was found at operation the infarction had been spontaneous in his cases. On the other hand, it might be postulated that there had been a twist which had become undone while the gangrene remained. Against this theory is the fact that oedema and fixation of the testis occur very early when there is torsion, as shown by Ownby and Atkinson (1942). It may be assumed, therefore, that very occasionally infarction of the testicle does occur spontaneously, though most cases are secondary to torsion.

CLINICAL FEATURES

The clinical features of these two conditions appear from the published descriptions to be identical. The child is born with a red, swollen scrotum, the skin seems to be oedematous and is often adherent to one testicle, which appears to be the affected organ. In those cases in which torsion occurs in a fully descended testis it is reasonably easy to exclude the possibility of a strangulated inguinal hernia by finding that the tumour is circumscribed above.

Some authors (James, 1953) stress the fact that the child's general condition may not be disturbed at all: there may be no increase in the pulse rate, no rise of temperature, and no pain or tenderness. Further detailed examination of these cases does not seem to produce any useful information. After diagnosis the main problem is treatment.

We have traced four cases of spontaneous infarction of the testicle in the newborn as described by Campbell, Ravich, and MacLean. All were explored and in each case orchidectomy was performed. James, in a very complete analysis of the literature, traced six cases of torsion of the testis occurring in the neonatal period and added a seventh, one of the two cases reported in his paper. In all these cases the testicle was removed sooner or later within the first few weeks of life, and one of the babies died from gastro-enteritis while still in hospital.

Two cases seen recently by us fulfilled the clinical criteria of either torsion or spontaneous infarction of the testis in the newborn.

CASE REPORTS

Case 1.—Mother aged 28, healthy. First child. Pregnancy uneventful; full term. Labour normal, vertex presentation. Length of labour: first stage, 10 hours; second stage, 1 hour 5 minutes; third stage 20 minutes; total duration, 11 hours 25 minutes. Birth weight, 10 lb. 1 oz. (4,560 g.). At birth the child was found to have a swollen red mass in the left side of the scrotum. The diagnoses considered were syphilis, new growth, and torsion. The first was ruled out by serological tests, the second by subsequent progress. The third was regarded as a possibility in spite of the fact that there was no local tenderness, no rise in temperature, or any constitutional upset. The condition gradually subsided and the testicle became smaller, until now, at the age of 2 years, it is no larger than a split pea.

Case 2.—Mother aged 27, healthy. Two previous pregnancies, eight and four years earlier—birth weights, 7 lb. 6 oz. (3,345 g.) and 8 lb. 3 oz. (3,715 g.). Pregnancy of present case normal. Labour normal, vertex presentation. Length of labour: first stage, 4 hours 10 minutes; second stage, 25 minutes; third stage, 30 minutes; total duration, 5 hours 5 minutes. Birth weight: 8 lb. 13 oz. (4 kg.). At birth the right side of the scrotum was found to be red, swollen, and hard. It did not seem to be tender, and there was no rise of temperature. After two days the testicle was seen to be adherent to the scrotum. This adherence gradually disappeared, and no suppuration occurred. The baby made excellent general progress and has been followed up for eight months. The testicle has gradually become smaller, and is now about the size of a small pea.

COMMENT

We do not think that surgical treatment as reported in the published cases has brought any particular benefit to the patients. They have been submitted to a general anaesthetic in some cases, to a local analgesic in others, and in each case to an operation at an early age. All have lost their testes, anyhow; not one has been reported as saved. In our cases the condition was deliberately allowed to subside and no attempt at operation was made. It was assumed that by the time the child was delivered the condition had advanced beyond the stage when operative cure could be expected. Both the children have atrophied testes, but they are alive and otherwise well, and their postnatal progress has not been marred by any surgical trauma or unwise attack.

S. GLASER, M.B., M.Sc., F.R.C.S.
H. R. E. WALLIS, M.D., M.R.C.P., D.C.H.

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