cases bleeding occurs because of a reduction in true prothrombin, whereas in most cases of haemorrhage due to anticoagulants the bleeding occurs because of depression of Factor VII.

In the case which we describe here the prothrombin time was estimated by the one-stage method of Quick, and it is possible that the maternal and foetal bleeding was due to true prothrombin depression in both. Whatever the anticoagulant employed, however, and whatever method is used to estimate the effect, we shall never be sure that the effect on the foetus is the same as on the mother. It will obviously be safer in the future, if anticoagulant therapy must be used, to rely on both the one-stage and the two-stage methods of estimation, although the one-stage method is still considered to be the best for routine use (Biggs and Douglas, 1953; Donald *et al.*, 1954; Hunter and Walker, 1954).

In order to determine what place anticoagulants should play in the treatment of antenatal thrombophlebitis it is essential to know what is the risk to the mother if they are not given. The incidence of the condition is so low that it is impossible to assess the dangers from such small series as those of Donaldson (1950) and Mansell (1952). One has therefore to turn to thrombophlebitis in general and draw conclusions on what is likely to happen in pregnancy. In several large series mentioned by I. S. Wright (1951), in which the thrombophlebitis was post-operative, the incidence of pulmonary embolism in the diagnosed cases was 50%: where one pulmonary embolism had occurred the incidence of a further, fatal, embolism was 20% (the diagnosis of pulmonary embolism does, however, depend to a great extent on the enthusiasm expended on its detection). In the obstetric cases, most of which must have been post-partum, the incidence of pulmonary embolism in cases diagnosed as having thrombophlebitis was 19–36% and the incidence of a further, fatal, embolism was only 5%. If, in addition, one takes into account Ochsner's differentiation between phlebothrombosis and thrombophlebitis and considers that the latter is by far the commoner in pregnancy and less apt to cause embolism (Ochsner, 1951), it would appear likely that the incidence of fatal pulmonary embolism in antenatal thrombophlebitis, untreated by anticoagulants, is well below 1%. It should be noted, however, that the danger to life is greatly increased after the first embolism has occurred, and also that in about 50% of cases of fatal pulmonary embolism there are no preceding signs of thrombophlebitis (Allen, 1946; Ochsner *et al.*, 1950).

It would appear to us that the danger to the life of a woman with antenatal thrombophlebitis is not sufficiently great to warrant the use of the present anticoagulants as a routine. They should not be used in the last four weeks of pregnancy if at all possible, but if a pregnant woman is having multiple pulmonary emboli then the risk to the foetus will have to be taken and anticoagulants given. Under these circumstances the laboratory control of therapy should be by both the one-stage and the two-stage methods.

Summary

Twin boys of a woman who had received anticoagulant therapy antenatally both died of haemorrhage. It is believed that the foetal haemorrhages resulted from the treatment given to the mother.

Since the risk to the mother from antenatal femoral thrombosis is so small it is recommended that anticoagulant therapy should not be given unless one pulmonary embolism has occurred. This applies especially to the last four weeks of pregnancy.

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Medical Memoranda

Penicillin Anaphylactoid Shock Successfully Treated with Adrenaline

The following cases have occurred within my practice during the period May 12, 1953, to August 8, 1955.

Case 1.—A man aged 75 was suffering from bronchial cancer, although at the time he was thought to have only bronchitis, for which condition a course of injections of crystalline penicillin had been given a year previously, without signs of intolerance. On May 12, 1953, one mega unit of crystalline penicillin was injected into the deltoid muscle. The patient at once complained of severe pain at the site of injection, became pale, sweated, and within a minute his breathing had become stertorous and his colour greyish. Two minutes later he was incapable of speech and pulseless. Adrenaline was now available, and 4 minims (0.24 ml.) of adrenaline 1:1,000 was injected subcutaneously. Within fifteen seconds his breathing had improved; in a quarter of an hour he was pale but could speak easily.

Case 2.—A man aged 30–35, a temporary resident, had a dental abscess and a very heavy purulent post-nasal discharge. His temperature was 101.2° F. (38.4° C.). He stated that he had never been treated with penicillin in any form. On June 27, 1953, having adrenaline ready for immediate use, I injected one mega unit of crystalline penicillin into the deltoid. The patient collapsed almost at once, becoming limp, blanched, and pulseless within half a minute. He was immediately given 4 minims (0.24 ml.) of adrenaline 1:1,000, and he responded by movement within ten seconds. Injections of 1 minim (0.06 ml.) at intervals of a minute were given for a further five minutes. He spoke naturally after a quarter of an hour. My impression at the time was that, had the adrenaline injection been delayed for perhaps two minutes, the patient might well have died.

Case 3.—A man aged 25–35, a temporary resident, was suffering from an early quinsy. On September 14, 1954, one mega unit of crystalline penicillin was injected into the deltoid, and within a minute he became pale and sweating, the pulse was weak, and he complained of pain at the site of injection. Adrenaline was given and the patient recovered sufficiently to leave the surgery in about a quarter of an hour.

Case 4.—A girl aged 14 had a septic foot. Her mother stated that she had never had an injection of penicillin but that she had been given penicillin lozenges on one occasion without untoward reaction. On August 8, 1955, after one mega unit of crystalline penicillin had been injected into the deltoid, the girl blanched rapidly, sweated, and her pulse

was slowed. She did not lose consciousness and the usual remedies for vaso-vagal attacks were unavailing. After several minutes her condition was the same and adrenaline was injected subcutaneously. Her condition improved only slowly, but the patient stated that she felt better for the second injection. Forty minutes after the penicillin had been injected the girl was still very pale, although her pulse was more rapid and of better volume.

In each of these cases the injection was of crystalline penicillin G alone. Other phials from the same batches did not produce unusual reactions in other patients. It is now, I understand, the general practice not to inject penicillin unless adrenaline 1:1,000 is at hand. From my own experiences, it would seem that this is an essential precaution. One other necessary precaution is to inquire carefully into the possibility of an allergic diathesis in patients who have never previously had penicillin.

Morecambe.

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Efficacy of Current Cerumenolytics

Excessive wax formation and retention, or ceruminosis, occurs frequently. If the cerumen is soft, syringeing is rapidly effective; hard cerumen may be removed by a wax curette. There are a number of cases, however, where cerumen requires 'preliminary chemical softening before it can be removed. Three cerumenolytics are in general use as an aid to syringeing: sodium bicarbonate and glycerin solution, olive oil, and hydrogen peroxide. Recently an oily preparation, "cerumol," has been produced which is claimed to be ideal for softening, disimpacting, and dissolving cerumen in the external auditory meatus. In spite of the absence of controlled trials this preparation is gaining in popularity.

Since no record of experiments or clinical trials to compare the efficacy of cerumenolytics could be found in the literature an investigation of the relative merits of the four solutions referred to above was conducted by the Royal Air Force E.N.T. survey, which screens entrants into the Service.

PROCEDURE

The four cerumenolytics—sodium bicarbonate ear-drops B.P.C., "cerumol," hydrogen peroxide ear-drops B.P.C., and olive oil B.P.—were placed in bottles labelled A, B, C, and D, respectively, with no other distinguishing mark. All the men in a flight were examined otoscopically by a single doctor, flights being dealt with by alternate doctors. When cerumen which obscured an adequate view of the tympanic membrane and which was considered by clinical impression to be hard was present in the meatus of one or both ears the subject concerned was included in the clinical trial. Each such subject was given a paper bearing an indication whether the left or right ear or both ears were affected and was sent into the syringeing room, where five drops of one of the solutions under trial were placed in the meatus and sealed in with a plug of cotton-wool. The four solutions were used in alphabetical order, and every fifth subject was left untreated as a control. At the end of half an hour symptoms of irritation or tingling were noted before the plug was removed and the ear syringed with warm tap water. If longer than five minutes was needed to clear the meatus of cerumen then the cerumenolytic used was considered to have failed. The trial was continued until 37 sets of readings—that is, a total of 185—were obtained. The doctor syringeing the ears was not informed which cerumenolytic, if any, had been used.

RESULTS

The results are summarized in the next column.

Application to the results of the χ^2 test for small numbers shows that only when one of the cerumenolytics—preparation D (olive oil)—was used was the number of occasions on which the meatus was not cleared in the specified time significantly less than when no cerumenolytic was inserted.

In other words, only the use of olive oil was significantly better than no treatment at all.

The symptoms of discomfort which were experienced were mainly burning sensations and tingling. Application of the χ^2 test for small numbers shows that symptoms of discomfort due to cerumenolytic B (cerumol) occurred in a significantly greater number of cases than with any other preparation.

Summary of Results

	Cerumenolytic				Untreated
	A	B	C	D	
No. of occasions on which meatus was not cleared within specified time . .	6	7	4	2	9
No. of cases with symptoms of discomfort . .	4	22	6	4	—

I am grateful to the Director-General of Medical Services, Royal Air Force, for permission to publish this paper, and to Dr. H. Cowie and his colleagues, who acted as observers in this investigation.

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Swollen Arms in Infancy

Unilateral swelling of the hand or arm is not uncommon in infants (Illingworth, 1953). Although accepted by many to be a harmless condition, it is still the cause of unnecessary worry both to parents and to doctors who see it for the first time. During the past three years 25 examples of the condition have been seen amongst infants attending the department of child health.

The natural history of the condition shows considerable variation within a broad general pattern. All cases occurred between the ages of 2 and 11 months. The infants have all been in good general health, and there have not been any significant findings in their own or their family histories. With one exception the incidents were observed in the winter months, and there was a particular association with spells of cold weather. The exception occurred in August, 1953. In every case the swelling was noticed in the morning and tended to subside during the day. In a few cases the swelling appeared for one or two consecutive days only; in others it recurred daily for a few weeks; in a few it recurred some months later, and in one a year later.

Considerable variation in degree was noted. In some cases one hand only was involved; in others the arm up to the elbow, and occasionally the whole arm. In a few cases bilateral changes were present, but these were never symmetrical.

The skin was tense and dusky red, or sometimes cyanosed. There was occasionally a slight degree of tenderness, and function was decreased as judged by lack of mobility of the fingers. Seven were in boys and 18 in girls. In all cases the condition cleared spontaneously.

In a search for possible causes of the condition it was observed that there was an impaired percussion note in the infraclavicular region on the affected side. In a few of the cases there was an increase in the mediastinal (? thymic) shadow on the x-ray film, but in most there was no radiological abnormality, and it was thought that the impaired percussion note might be due to a degree of associated oedema of the chest wall. The cause of the condition remains uncertain, but the circumstances make it appear likely that it is essentially a peripheral vascular condition precipitated by cold weather.

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