FATAL HYPERSENSITIVITY WITH OEDEMA OF THE GLOTTIS AFTER T.A.B. VACCINE IN A CASE OF REITER'S SYNDROME*

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A man aged 33, of unestablished marital status and nominally working as a barman, first attended St. James' Hospital, Birkenhead, in June, 1959. He denied sexual exposure since "his wife had been killed by a horse 10 weeks previously in Eire", and complained of urethral discharge, dysuria, and a swollen right knee for the past 9 weeks, all noted on clinical examination. *Neisseria gonorrhoeae* was cultured from the discharge. He was treated with intramuscular penicillin (P.A.M.) 450,000 units and admitted to St. Catherine's Hospital; 3 days later, the urine still being turbid though gonococci were not found, he was given 1 g. streptomycin intramuscularly and a course of sulphadimidine.

Within a week, the urine was clear. After 12 days the right knee appeared normal and 4 days later a prostatic smear showed no cells and he was discharged from hospital. He had been a very troublesome in-patient, his departure being greeted thankfully.

In September, 1959, now "a life-long bachelor", he attended the Seaman's Dispensary, Liverpool, with another attack of gonorrhoea of 2 days' duration, following exposure to risk 14 days before. There was swelling of the right knee which subsided with the urethral infection, and which, with prostatitis and stricture eliminated, was considered cured 5 weeks later after the same treatment.

In November, 1959, now "happily married for the past 14 months with his wife pregnant", he attended at Birkenhead with a mild (but not circinate) balanitis which rapidly responded to local measures.

After 5 months, now a "single man", he attended in Liverpool with a mild non-specific urethritis of 4 days' duration which had started 3 weeks after exposure to risk. There was no knee involvement and treatment with streptomycin and a sulphonamide was rapidly effective.

In February, 1961, now "divorced", he was once more an in-patient at St. Catherine's, Birkenhead, with an acute staphylococcal throat infection, which was suspected, for a time, of being an acute chest, abdominal, or central nervous system emergency. Evidence was then

obtained of previous treatment in the Birkenhead group of pleural effusion in 1947 and of gastric ulcer in 1953.

On May 1, 1961, 14 days after exposure to risk, he reappeared with acute gonorrhoea of 5 days' duration and a swollen right knee for 3 days. Three days after an intramuscular injection of 600,000 units P.A.M., there was no discharge and a clear urine, but his right knee was much worse and the left knee also considerably swollen. He was re-admitted to St. Catherine's and, despite a clear urine, both knees were much worse on May 8.

In the hope of a rapid cure and of keeping him within due bounds, it was decided to resurrect T.A.B. therapy and an initial intravenous dose of fifty million organisms was accordingly administered at 9.0 a.m. A satisfactory response ensued, the temperature rising to 104°F. and subsiding to normal by 8.0 p.m. The joint condition also improved. On May 10, a doubled dose was given by my colleague, Dr. A. S. W. Egerton. This resulted in a maximum temperature of 104°F. which by 11.30 p.m. was 99.8 F. (pulse 88) and at 12.30 a.m. 99.2 F. (pulse 84). During the evening, the nursing staff discovered some beer bottles and a bottle substantially consumed, of whiskey, the last concealed between the bedclothes. The removal of these items was ill-received by the patient. (A further attempt at smuggling on the following day confirmed that delivery of the former consignment had occurred during the evening visit.) At 1.5 a.m. the patient was found cyanosed and struggling for breath and an injection of Nikethamide (Coramine) alone was administered before death.

An autopsy by Dr. R. Rawcliffe, consultant pathologist to the Birkenhead Hospital Group, revealed acute oedema of the glottis, the lungs being macroscopically and on section apparently normal. In the opinion of Dr. Rawcliffe, death was undoubtedly due to oedema of the glottis, an anaphylactic reaction following the injection of T.A.B.

Discussion

The use of T.A.B. in Reiter's syndrome is, of course, well known, and was particularly fashionable

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during the war, though even before this contretemps it was a method for which I personally have never felt enthusiasm. It admittedly carries a mortality rate, usually "from haemorrhagic encephalitis and vascular collapse" (Harkness, 1950), the precise incidence of which is unascertainable. Kemp and Stokes (1929) reported one fatality due to slight myocarditis and cardiac failure out of a series of 65 cases so treated (in this instance, for G.P.I.), but Nicol (1942) had no fatality in a series of 207 cases.

Occasional fatalities have been reported following the subcutaneous injection of T.A.B. as an immunizing procedure, "in which the cause of death was oedema of the glottis" (Rolleston and Ronaldson, 1940). For once, even so formidable and comprehensive a statistician as Rolleston gives no actual figures.

It is worth recalling the main allergic reactions that can follow the administration of serum or other similar substances. The commonest, akin to serum sickness, arises 10 days after injection, the principal features including urticaria, adenitis, arthritis, splenomegaly, and pyrexia. This condition is troublesome but rarely dangerous. The accelerated reaction occurs after an interval ranging from one hour up to 2 or 3 days and is often dangerous, the patient being acutely ill, with bronchospasm added to the other manifestations. Lastly, what most authorities still call anaphylactic shock may follow usually within 30 minutes and often instantaneously after administration. The main features are pallor, dyspnoea, a fall in blood pressure, and often unconsciousness, and this is potentially a fatal reaction. Fortunately rare, acute oedema of the larynx requires instant tracheotomy if life is to be saved.

Autopsy established that oedema of the glottis caused this patient's death and it must have occurred most unusually in association with the equivalent of an accelerated reaction.

There seem no valid grounds for incriminating the not inconsiderable amount of alcohol consumed, nothing exceptional for this particular individual from all accounts.

This unfortunate case underlines the necessity for using only medical considerations in the adoption of a potentially dangerous treatment. If the benefits of such treatment are dubious, it may well be that its

complete abandonment would be advisable—a consideration that might possibly be applied also to steroid therapy in Reiter's syndrome, which was ruled out in this case by previous peptic ulceration. An ill-judged abandonment of these tenets caused this fatality. Lastly, in view of the apparently increasing incidence of hypersensitivity reactions in general, not to mention the current interest in the dangers of anti-tetanus serum (Park, 1922, estimated a fatality rate of 1 per 50,000 serum injections), it is of prime importance that in all wards, out-patient, and casualty departments, the appropriate remedies should always be available, properly prepared for instant use.

Summary

The case history is described of a patient with recurrent gonorrhoea associated with Reiter's syndrome, which culminated in fatal oedema of the glottis following intravenous T.A.B. therapy. The cause of death was confirmed by autopsy. The risks of this method of treatment and of allergic reactions in general are briefly discussed with special reference to the case in question.

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REFERENCES

- Harkness, A. H. (1950). "Non-Gonococcal Urethritis", p. 354, Livingstone, Edinburgh.
- Kemp, J. E., and Stokes, J. H. (1929). *J. Amer. med. Ass.*, **92**, 1737.
- Nicol, C. S. (1942). *Brit. J. vener. Dis.*, **18**, 47.
- Park, W. H. (1922). *J. Amer. med. Ass.*, **79**, 1584.
- Rolleston, J. D., and Ronaldson, G. W. (1940). "Acute Infectious Diseases", 3rd ed., p. 196. Heinemann, London.

Oedème fatal de la glotte du à l'hypersensibilité au vaccin T.A.B. dans un cas de syndrome de Reiter

RÉSUMÉ

On rapporte le cas d'un malade atteint de gonorrhée qui montrait aussi la triade du syndrome de Reiter, dans lequel une réaction au vaccin T.A.B. se termina par un oedème fatal de la glotte. La cause de mort était constatée à l'autopsie. On passe en revue les hazards du vaccin et des réactions allergiques en général.