Three Infected Injections from the Same Organism

SIR—Rheumatologists perform injections daily in the normal routine of treatment. These injections carry a tiny risk of infection, quoted as 0.06% for arthrocentesis [1]. This risk can presumably be minimized by reasonable sterile precautions, but practice in this respect varies widely [2]. I wish to report three cases of infection from the same phage type Staphylococcus which was present in the operator’s nostrils.

Case 1 was a woman aged 34 yr with a prolapsed lumbar disc with sciatica. She was treated with three sacral epidural injections of 40–60 mg of triaminolone acetonide in 20 ml of 0.25% lignocaine, with 2 months and then 3 weeks between injections. Three weeks after the third injection, she was admitted to hospital with fever and a considerable increase in pain in the back and left leg. ESR was 78 mm, WBC 15.4 × 10^9/l with 72% neutrophils. Liver function tests were abnormal. A small amount of thick pus was withdrawn by needle puncture of a tender swelling at the left low back. This yielded a heavy growth of Staphylococcus aureus sensitive to most antibiotics. Appropriate antibiotics were given and an MRI scan showed a paravertebral muscle abscess with the suspicion of infection within the lumbar epidural space.

At operation by Mr Robert Bradford, neurosurgeon, a large left paravertebral muscle abscess was drained, but fortunately the epidural space was free from infection. The patient made an uneventful recovery.

It seems likely that the second injection caused the infection, after which some deterioration occurred.

Case 2 was a 63-yr-old woman with an ulnar compression neuropathy at the elbow who was given an injection of 25 mg of hydrocortisone acetate to the ulnar groove. Within 4 days, she developed swelling and pain above the injected area, fever, and increased ulnar nerve dysfunction. A diffuse tender swelling proximal to the ulnar groove in the muscles above the elbow was explored with a needle, but no pus was found. ESR and WBC were normal. A week later, ESR was 84 and WBC 12.3 with 84% neutrophils. Flucloxacillin and fucidin were started, and a little blood clot aspirated from the swelling grew S. aureus sensitive to those antibiotics. The patient made an uneventful recovery.

Case 3 was a 55-yr-old man with supraspinatus tendonitis who was given an injection of 25 mg of hydrocortisone with 1 ml of 1% lignocaine to the subacromial bursa. A week later, he complained of increased pain in the shoulder, sweating and headache. ESR was 34 mm, WBC normal. A week later, there was still pain and ESR was 29 mm with WBC 12.4 × 10^9/l with 67% neutrophils. Nothing could be aspirated from the subacromial bursa, but the needle was sent for culture. Flucloxacillin and fucidin were started. Culture from the tip of the needle yielded S. aureus sensitive to those antibiotics. The injection in case 3 was just 9 days after the injection which had infected case 2.

After the third infection, nasal swabs were taken from the operator (MFG) and from case number 2. MFG yielded S. aureus sensitive to erythromycin, flucloxacillin and penicillin. The swab from case 2 was negative. Phage typing was performed on staphylococci grown from all three infections and from the nasal swab of MFG. These were all identical. MFG then undertook a week’s course of standard treatment for staphylococcal carriers. Further nasal swabs taken then and subsequently were negative.

These injections were all undertaken using the moderately rigorous, but not totally aseptic, technique which the author had used for many years. This involved careful hand washing, the use of sterile towels upon which to place prepared syringes, etc., and prior swabbing of the skin with Mediswabs. On microbiological advice, this technique has now been improved by the invariable use of disposable sterile gloves, and careful preliminary drying of the injection site. Medical accidents such as infections cannot be eliminated completely, and it is not known whether the incidence of infection is altered by the level of aseptic technique [2]. Skin disinfectants have proven efficacy and are recommended [3], although no difference on microbiological testing of the skin has been shown after using different forms of skin swab [4].

The presence of pathogenic Staphylococcus in the nose of an operator performing invasive techniques can have dangerous consequences. Perhaps regular checking of doctors performing such techniques should be performed, but this is not routine practice and it is doubtful whether the yield would make this worthwhile. The three patients reported here were not ill or immunocompromised, but were otherwise healthy people. The risk of introducing infection, and the necessity to consider this diagnosis in the event of untoward reactions to injections, must constantly be borne in mind.

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