Recurrent pseudomonas septic arthritis

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Summary: Episodes of septic arthritis caused by *Pseudomonas aeruginosa* occurred in a patient with an infected vascular graft. He responded well to antibiotic therapy and removal of the graft was not required. The aetiology of this unusual cause of septic arthritis is discussed.

Introduction

Gram-negative bacilli are an unusual cause of septic arthritis,¹ and most cases occur in elderly patients with predisposing factors such as diabetes or malignancy.² Although *Pseudomonas aeruginosa* has been associated with joint infection in intravenous drug abusers,³ and in children following penetrating injuries to the foot,⁴ in the general population less than 1% of cases are due to this organism.¹ This report describes a case of recurrent pseudomonal septic arthritis associated with an infected prosthetic aortic graft.

Case report

A 76 year old man was admitted for investigation in April 1990. Following repair of an abdominal aortic aneurysm in October 1986, he had developed an aorto-duodenal fistula in July 1988. *Pseudomonas aeruginosa* had been isolated from peripheral blood and from blood clot removed from the aortic graft during a laparotomy to close the fistula. He had been treated for 7 days with intravenous gentamicin and cefotaxime, to which both isolates were reported to be sensitive, followed by oral ciprofloxacin 500 mg twice daily for a further 2 weeks. Over the next 2 years he had experienced several episodes of acute joint pain involving mainly wrists and ankles, and was referred for a rheumatological opinion.

On this presentation there was a 10-day history of pain and swelling of the left wrist. He was pyrexial (37.4°C) but not systemically unwell. The wrist was warm, tender and swollen. The white blood cell count was $11 \times 10^9/l$ (86% neutrophils)

and the C-reactive protein level greater than 128 mg/l. Purulent synovial fluid was aspirated from the wrist joint and microscopy revealed large numbers of leucocytes and pyrophosphate crystals. After overnight incubation *Pseudomonas aeruginosa* was isolated from this fluid and also from blood culture. He was treated with a 4-week course of oral ciprofloxacin 750 mg twice daily, to which both isolates were sensitive.

In December 1990 he presented again with septic arthritis involving the left elbow and *Pseudomonas aeruginosa* was again isolated from cultures of synovial fluid. On this occasion he was treated with intravenous ciprofloxacin and cefsulodin for 2 weeks, followed by oral ciprofloxacin 750 mg twice daily for a further 6 weeks.

Since 1990 there have been no further episodes of septic arthritis, satisfactory function has been regained in the previously affected joints and he has remained well. In April 1992 he had a transient unexplained pyrexia, but blood cultures and radioisotope scans of the abdomen were negative.

Discussion

This patient has had two documented episodes of septic arthritis caused by *Pseudomonas aeruginosa* and it is possible that earlier episodes had the same aetiology. Most cases of Gram-negative septic arthritis follow an episode of bacteraemia, and a source of infection, such as the urinary tract, can often be identified.² However, urine cultures from our patient have been negative and infection of the aortic graft is the most likely source.

Prosthetic vascular graft infections complicate about 2% of procedures. The majority are caused by contamination at the time of insertion. Infection following bacteraemia is unusual but may explain graft infections which occur many months after the

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original surgery.⁵ Our patient presented with a graft-enteric fistula almost 2 years after the repair of his aneurysm. This may have resulted from mechanical erosion by the graft through the bowel wall, but is more likely to have followed a primary graft infection. We think that the graft in our patient became infected during a transient bacteraemia, the original source of which is uncertain.

Since the 8-week course of ciprofloxacin in 1990, there have been no further episodes of arthritis and there was no evidence of graft infection when he was assessed in 1992. Ciprofloxacin penetrates well into tissues and has high bioavailability, enabling it to be used as oral therapy for *Pseudomonas aeru-*

ginosa infections.⁶ The antibiotic therapy in 1988 is unlikely to have eradicated *Pseudomonas aeruginosa* from his graft but the latest prolonged course with ciprofloxacin appears to have successfully cleared the organism.

Previous reports of septic arthritis caused by Gram-negative bacilli emphasized the poor outcome associated with this condition.⁷ A more recent study found that the prognosis has improved considerably even without surgical intervention.² This case demonstrates that joint aspiration combined with antibiotic therapy can achieve a good outcome in Gram-negative septic arthritis with restoration of normal joint function.

References

1. Cooper, C. & Cawley, M.I.D. Bacterial arthritis in an English health district: a 10 year review. *Ann Rheum Dis* 1986, **45**: 458–463.
2. Newman, E.D., Davis, D.E. & Harrington, T.M. Septic arthritis due to gram negative bacilli: older patients with good outcome. *J Rheumatol* 1988, **15**: 659–662.
3. Miskew, D.B.W., Lorenz, M.A., Pearson, R.L. & Pankovich, A.M. *Pseudomonas aeruginosa* bone and joint infections in drug abusers. *J Bone Joint Surg* 1983, **65A**: 829–832.
4. Chusid, M.J., Jacobs, W.M. & Sty, J.R. *Pseudomonas* arthritis following puncture wounds of the foot. *J Pediatr* 1979, **94**: 429–431.
5. O'Brien, T. & Collin, J. Prosthetic vascular graft infection. *Br J Surg* 1992, **79**: 1262–1267.
6. Hooper, D.C. & Wolfson, J.S. Fluoroquinolone antimicrobial agents. *N Engl J Med* 1991, **324**: 384–394.
7. Goldenberg, D.L., Brandt, K.D., Cathcart, E.S. & Cohen, A.S. Acute arthritis caused by Gram-negative bacilli: a clinical characterization. *Medicine* 1974, **53**: 197–208.

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Multilobated B-cell lymphoma of the spleen

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Summary: We report a case of multilobated B-cell lymphoma presenting with primary splenic involvement. This is a very unusual tumour occurring in an uncommon site.

Introduction

Peripheral T-cell lymphomas characterized by cells having large multilobated nuclei were first des-

cribed by Pinkus *et al.* in 1979.¹ Subsequently multilobated non-Hodgkin's lymphomas with a B-cell phenotype were reported.^{2,3} These tumours may occur in nodal, extranodal or combined locations but most frequently present in an extranodal site. We report a case presenting with hypogammaglobulinaemia and splenomegaly. This is a very rare occurrence.

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