

A CASE REPORT OF VASCULAR CATHETER-ASSOCIATED BACTEREMIA CAUSED BY *Mycobacterium tuberculosis* IN A NON-IMMUNOSUPPRESSED PATIENT

Victor Flávio PETRILLO(1), Aline Almeida AMARAL(1), José da Silva MOREIRA(2), Susana Beatriz Vianna JARDIM(3) & Luiz Carlos SEVERO(1)

SUMMARY

Mycobacterium tuberculosis was isolated from a central venous catheter in a non-immunosuppressed patient with systemic tuberculosis.

This case report represents a very uncommon form of isolation of *Mycobacterium tuberculosis*. A total improvement was obtained after treatment.

KEYWORDS: *Mycobacterium tuberculosis*; Bacteremia; Sepsis; Blood.

CASE REPORT

A 45 year-old man, with fever, cough and weight loss (4 kg/30 days) was admitted to the hospital. The chest X-ray shows left pleural effusion, and infiltration on both lungs. The patient underwent a central venous catheterization and after the catheter removal *Mycobacterium tuberculosis* was identified from it at the microbiology laboratory. The anti-HIV test was negative.

The patient received antimycobacterial therapy for six months with total improvement.

Microbiological investigation

The material obtained from the luminal side of the catheter was Gram-stained and a neutral gram bacilli were observed, suggesting mycobacteria. In the presence of acid fast bacilli by the Ziehl-Neelsen, the material was planted in Lowenstein-Jensen and 30 days after, a *Mycobacterium spp* was isolated. The germ was sent to the Reference Mycobacteriology Laboratory and was identified as *Mycobacterium tuberculosis*. Growth more than 7 days, non pigmented colonies, niacin positive, in Ogawa with drugs (PNB negative and TCH positive).

DISCUSSION

Despite their medical therapeutic qualities, catheters serve as a major focal point for infections, either as consequence of colonization of the canula wound or of the surface and/or luminal side of the catheter itself. In most instances the offending microorganisms have been species of *Staphylococcus*, *Streptococcus*, gram-negative bacilli, *Corynebacterium*, and *Candida*^{5,7}.

The recognition of nontuberculous mycobacteria, especially *Mycobacterium chelonae*, as cause of infection in the setting of long-term indwelling intravascular catheters has only recently gained the appreciation of clinicians and microbiologists^{1,2,4}.

In the present report, we describe a patient with pleural and pulmonary tuberculosis who developed a central venous catheter-associated bacteremia caused by *M. tuberculosis*.

The *M. chelonae* is now being increasingly recognized as the cause of catheter-related infections, specially in patients with cancer^{1,4}. They can cause exit site infections, tunnel infections or catheter associated bacteremia with disseminated disease. These rapidly growing mycobacteria are ubiquitous in nature, found in soil, water and dust. They also have been isolated from the respiratory and gastrointestinal tracts of humans without evidence of disease. On the Gram-stained smear they appear to be Gram-positive bacilli and are often mistaken by *Corynebacterium* species⁶.

The report of a *M. tuberculosis* catheter associated infection seems to be very unusual, and it was possible to detect this germ, in this report, because of the meticulous routine done during the processment of the specimen. It was crucial to detect the organisms. The microscopy was very helpful to indicate the presence of the *M. tuberculosis* on the catheter because of the Gram-stain neutrality⁵. The presence of Gram neutral bacilli on the smear was fundamental to the decision to plant the specimen on Lowenstein-Jensen.

(1) Laboratório de Microbiologia Clínica, Instituto Especializado em Pesquisa e Diagnóstico (IPD), Santa Casa, Porto Alegre, RS, Brasil.

(2) Pavilhão Pereira Filho, Santa Casa, Porto Alegre, RS, Brasil.

(3) Laboratório Central da Fundação Estadual de Produção e Pesquisa em Saúde, Secretaria de Saúde e Meio Ambiente do Estado do Rio Grande do Sul, Porto Alegre, RS, Brasil.

Correspondence to: V.F. Petrillo, IPD - Santa Casa, Annes Dias 285, 90020-090 Porto Alegre, RS, Brasil. Fax 051 214 8435; e-mail: severo@santacasa.tche.br

RESUMO

Um caso de bacteremia associada a cateter vascular causada por *Mycobacterium tuberculosis* em paciente não imunossuprimido

Relatamos um caso de isolamento de *Mycobacterium tuberculosis* de cateter venoso central. O paciente apresentava tuberculose miliar e nenhum sinal de imunossupressão. O tratamento com tuberculostáticos foi efetivo.

REFERENCES

1. DAVISON, M.B.; McCORMACK, J.G.; BLACKLOCK, Z.M. *et al.* - Bacteremia caused by *Mycobacterium neoaurum*. **J. clin. Microbiol.**, 26: 762-764, 1988.
2. ENGLER, H.D.; HASS, A.; HODES, D.S. & BOTTONE, E.J. - *Mycobacterium chelonae* infection of a broviac catheter insertion site. **Europ. J. clin. Microbiol. infect. Dis.**, 6: 521-523, 1989.
3. HINSON Jr., J.M.; BRADSHER, R.W. & BODNER, S.J. - Gram-stain neutrality of *Mycobacterium tuberculosis*. **Amer. Rev. resp. Dis.**, 123: 365-366, 1981.
4. HSUEH, P.R.; TENG, L.J.; YANG, P.C. *et al.* - Recurrent catheter-related infection caused by a single clone of *Mycobacterium chelonae* with two colonial morphotypes. **J. clin. Microbiol.**, 36: 1422-1424, 1998.
5. MAKI, D.G.; WEISE, M.S. & SERAFIN, H.W. - A semiquantitative culture method for identifying intravenous-catheter-related infection. **New Engl. J. Med.**, 296: 1305-1309, 1977.
6. RODGERS, G.L.; MORTENSEN, J.E.; BLECKER-SHELLY, D. *et al.* - Two case reports and a review of vascular catheter-associated bacteremia caused by nontuberculous *Mycobacterium* species. **Pediat. infect. Dis. J.**, 15: 260-264, 1996.
7. TUNNEY, M.M.; GORMAN, S.P. & PATRICK, S. - Infection associated with medical devices. **Rev. med. Microbiol.**, 7: 195-205, 1996.

Received: 09 June 1998

Accepted: 06 April 1999