Streptococcus gallolyticus subsp. pasteurianus Peritonitis in a Patient on Continuous Ambulatory Peritoneal Dialysis

Sir,

We report the first case of Streptococcus gallolyticus subsp. pasteurianus peritonitis in a patient on continuous ambulatory peritoneal dialysis (CAPD). A 63-year-old male of Indian origin, on CAPD since April 2013, presented to us with CAPD peritonitis. He was admitted and initiated on intraperitoneal (IP) cloxacillin and ceftazidime as per International Society of Peritoneal Dialysis guidelines. His laboratory investigations were as follows: C-reactive protein 47 mg/L, total white cell count 4.3 × 10⁹/L, peritoneal dialysate (PD) cell count was 200 cells/mm³ with predominant polymorphs. Dialysate fluid cleared up on day 2 of treatment with subsequent cell count of 25 cells/mm³, and corresponding negative cell counts repeated twice. Preliminary reports revealed Gram-positive cocci in the dialysate fluid; therefore, IP ceftazidime was discontinued and IP cloxacillin maintained. However, on day 4 of treatment. PD culture grew S. gallolyticus subsp. pasteurianus, which was resistant to clindamycin, erythromycin, trimethoprim/ sulfamethoxazole, and tetracycline but sensitive to cephalexin and penicillin G. IP cloxacillin was then changed to IP penicillin G 50,000 U per 2 L dialysate bag. He remained asymptomatic and was discharged, to complete 2 weeks of IP penicillin G on an outpatient basis.

Streptococcus has over 50 species in its genus. A serotype classification called Lancefield grouping was used to further classify beta-hemolytic streptococci based on specific carbohydrates present on the bacterial cell wall. S. gallolyticus subsp. pasteurianus is a newly classified group D Streptococcus species previously known as Streptococcus bovis type II/2. S. bovis has 2 biotypes: I and

II. This new classification is due to their unique ability to be able to decarboxylate gallic acid. [1] Its unique genetic diversity has resulted in many subspecies that have been associated with an array of clinical implications. [2] They frequently inhabit the gastrointestinal tract of human and animals such as horses, cattle, pigs, and sheep. Besides its association with endocarditis and colorectal carcinoma, *S. gallolyticus* subsp. *pasteurianus* has been linked as a causative agent for meningitis and septicemia in patients with colonic carcinoma, cirrhosis, and chronic liver disease. [3,4] Immunocompromised patients have been known to succumb fatally to septicemia caused by *S. gallolyticus* subsp. *pasteurianus*. [5]

Our timely initiation of IP ceftazidime and cloxacillin and prompt revision of antibiotics therapy according to antibiogram on day 4 with IP penicillin G led to the successful treatment of peritonitis. Our experience and literature review suggests that *S. gallolyticus* subsp. *pasteurianus* infection must not be taken lightly. Awareness regarding the threat posed by this organism is important to ensure the prompt initiation of antimicrobial therapy.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

M. Shanmuganathan, B. L. Goh, C. T. S. Lim¹

Department of Nephrology, Hospital Serdang, ¹Nephrology Unit, Universiti Putra Malaysia, Selangor, Malaysia ${\it Address\ for\ correspondence:}$

Prof. C. T. S. Lim,

Department of Medicine, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia 43400, Serdang, Malaysia.

E-mail: drchrislim@gmail.com

References

- Osawa R, Fujisawa T, Sly L. Streptococcus gallolyticus sp nov.: Gallate degrading organisms formerly assigned to Streptococcus bovis. Syst Appl Microbiol 1995;18:74-8.
- Yap DY, To KK, Yip TP, Lui SL, Chan TM, Lai KN, et al. Streptococcus bovis peritonitis complicating peritoneal dialysis – A review of 10 years' experience. Perit Dial Int 2012;32:55-9.
- Gold JS, Bayar S, Salem RR. Association of *Streptococcus bovis* bacteremia with colonic neoplasia and extracolonic malignancy. Arch Surg 2004;139:760-5.
- Sturt AS, Yang L, Sandhu K, Pei Z, Cassai N, Blaser MJ. Streptococcus gallolyticus subspecies pasteurianus (Biotype II/2), a newly reported cause of adult meningitis. J Clin Microbiol 2010;48:2247-9.

 Alex D, Garvin DF, Peters SM. Streptococcus pasteurianus septicemia. Indian J Med Microbiol 2013;31:310-2.

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

Quick Response Code: Website: www.indianjnephrol.org DOI: 10.4103/ijn.IJN_245_16

How to cite this article: Shanmuganathan M, Goh BL, Lim C. *Streptococcus gallolyticus* subsp. *pasteurianus* peritonitis in a patient on continuous ambulatory peritoneal dialysis. Indian J Nephrol 2017;27:488-9.

© 2017 Indian Journal of Nephrology | Published by Wolters Kluwer - Medknow