



We encountered two patients under long-term parenteral nutrition who developed glomerulonephritis associated with central venous catheter infection” Okada et al (2016).

Abstract:

BACKGROUND: Advances in long-term parenteral nutrition via indwelling central venous catheter have improved the quality of life and mortality in patients with life-threatening gastrointestinal diseases complicated with severely impaired absorption. However, infection to central venous catheter is still a common and critical complication for such patients. We encountered two patients under long-term parenteral nutrition who developed glomerulonephritis associated with central venous catheter infection. Persistent bacterial infection in indwelling medical devices placed in the blood-stream such as a ventricular-atrial shunt is known to cause glomerulonephritis, a condition termed shunt nephritis. We reported the clinical manifestations, treatment and their pathological findings in the two patients with glomerulonephritis associated with central venous catheter infection.

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CASE PRESENTATION: Both patients suffered from megacystis microcolon intestinal hypoperistalsis syndrome, a form of pseudo-Hirschsprung’s disease. They had been receiving

home parenteral nutrition via central venous catheter because of severe malabsorption. They presented proteinuria, hematuria, hypocomplementemia and positive PR3-antineutrophilic cytoplasmic antibody accompanied by Staphylococcus epidermidis infection in the central venous catheter. Their renal biopsy revealed membranoproliferative glomerulonephritis with positive C3 deposition. One of them recovered completely following the removal of catheter and administration of antibiotics, while another did not respond to the treatments. We then treated her with methylprednisolone pulse therapy followed by prednisolone. She responded well, and achieved complete remission.

**CONCLUSION:** As central venous catheter infection-related glomerulonephritis has a similar etiology to shunt nephritis, removal of the catheter and administration of antibiotics is fundamental to the treatment. If a patient is resistant to such conventional therapy, additional steroid and/or immunosuppressive agent could be considered. Although the number of patients with classical shunt nephritis is decreasing since the ventricular-peritoneal shunt has become the major procedure for hydrocephalus, central venous catheter infection-related glomerulonephritis may increase in the future due to a marked increase in the number of patients receiving long-term parenteral nutrition. Routine urinalysis should be considered in such patients for early detection of central venous catheter infection-related glomerulonephritis.

#### Reference:

Okada, M., Sato, M., Ogura, M., Kamei, K., Matsuoka, K. and Ito, S. (2016) Central venous catheter infection-related glomerulonephritis under long-term parenteral nutrition: a report of two cases. BMC Research Notes. 9(1), p.196.

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