

Shunt Nephritis

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INTRODUCTION

Shunt nephritis is a rare complication of ventriculoatrial shunts used in the treatment of hydrocephalus. It arises from chronic infection, leading to immune-complex mediated nephritis. Notably, while typically observed in children, this case concerns a 31-year-old male who presented with increased intracranial pressure (ICP) and nephrotic syndrome 18 years post-initial shunt insertion.

METHODS

A retrospective chart review was performed focusing on presenting symptoms, diagnosis, and management.

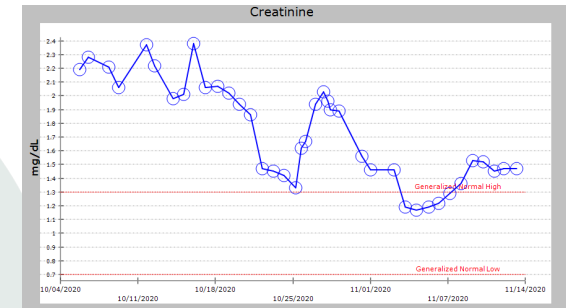
RESULTS

A 31-year-old male with a history of obstructive hydrocephalus and prior ventriculoatrial shunt, placed in 2002. He presented with headache, nausea, and vomiting. Developing hydrocephalus following intraventricular hemorrhage in infancy, he underwent more than 100 shunt revisions. Subsequent investigation revealed uncontrolled hypertension, abnormal renal function, and anemia. His creatinine peaked at 2.38 mg/dL. Urine analysis was positive for blood and protein. Head CT showed no changes from previous studies. Blood cultures grew *Staphylococcus epidermidis*. Renal ultrasound demonstrated echogenic kidneys with no hydronephrosis, stones, or masses, while a kidney biopsy revealed membranoproliferative glomerulonephritis type I. His low C3 and normal C4 were consistent with shunt nephritis. Treatment involved antibiotics, antihypertensives, and shunt externalization. One-year post-incident, the patient returned to his baseline, and his most recent creatinine was 1.49 mg/dL.



CONCLUSIONS

Symptoms of shunt nephritis vary, including headache, nausea, vomiting, sepsis, and seizures. Evaluation often reveals hypertension and abnormal renal function. Renal imaging rules out other urologic causes for renal impairment, including urolithiasis or worsening hydronephrosis. While shunt nephritis is rare, it is crucial to maintain a high index of suspicion in patients with ventriculoatrial shunts and declining renal function, particularly as they may be under the care of urologists. Although it can lead to devastating complications, including renal failure and death, early detection and treatment offer a favorable prognosis.



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