

# Multifactorial Encephalopathy and Seizure Episodes in a Middle-Aged Male: A DIAGNOSTIC AND THERAPEUTIC CHALLENGE IN A POST-SPLENECTOMY PATIENT

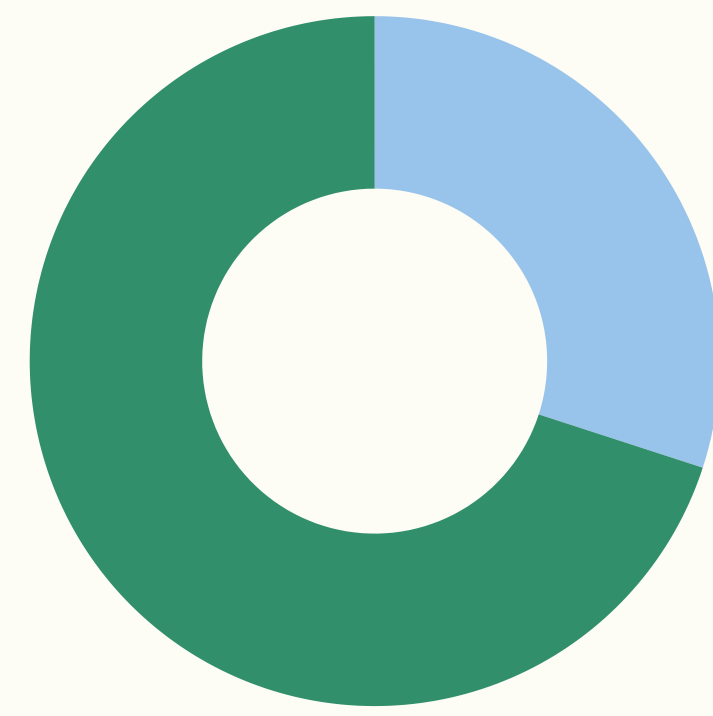
LIFELONG VIGILANCE: RECOGNIZE, PREVENT, AND ACT FAST AGAINST OPSI

## AUTHORS

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## INTRODUCTION

Overwhelming post-splenectomy infection (OPSI) is a life-threatening emergency characterized by sudden, rapid progression from flu-like symptoms to septic shock and multi-organ failure. Time from splenectomy to OPSI onset can range from days to over 20 years.



Despite a relatively low incidence in adults, OPSI carries a mortality rate of up to **70%**

## OBJECTIVE

To present the clinical course, diagnostic dilemmas, and therapeutic challenges in a 53-year-old Filipino male who developed OPSI with neurologic and systemic complications.

## DISCUSSION

### Overwhelming Post-Splenectomy Infection (OPSI)

OPSI is a rare but often fatal complication in asplenic patients, caused primarily by encapsulated organisms such as *Streptococcus pneumoniae*. Risk persists throughout life. In this case, OPSI developed nearly 10 years after splenectomy. Early symptoms are often nonspecific, which can delay diagnosis and contribute to poor outcomes, as initially observed when fever and altered sensorium were attributed to metabolic derangements.

### Course and Treatment

The patient's course was complicated by overlapping crises: severe hyperglycemia, metabolic acidosis, acute kidney injury, thyroid storm, seizures, and cerebral infarcts. Initial empiric antibiotics were started promptly, later escalated to meropenem and vancomycin when *S. pneumoniae* bacteremia and ESBL-Klebsiella were confirmed. Despite aggressive antimicrobial therapy, renal replacement therapy, and seizure control, his condition rapidly worsened, reflecting the fulminant nature of OPSI even under intensive management.

### Preventive Measures

Prevention is the cornerstone of OPSI management. Vaccination, prophylactic antibiotics, and patient education greatly reduce risk, yet these were absent in this patient. Lack of pneumococcal vaccination and uncontrolled comorbidities increased his vulnerability, underscoring the need for vigilance, early empiric antibiotics, and strict adherence to preventive measures.

## AFFILIATIONS

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## CASE PRESENTATION

A 53-year-old Filipino male from Tacloban City, with a history of splenectomy (2015) and comorbidities of poorly controlled diabetes, hypertension, and CKD stage V, presented with fever, chills, progressive weakness, aphasia, urinary incontinence, and altered sensorium. He was febrile (39.4 °C), hypertensive (200/100 mmHg), tachycardic (166 bpm), tachypneic (60 cpm), and had a GCS of 5. Labs showed leukocytosis (WBC  $33.08 \times 10^9/L$ ), severe hyperglycemia (510 mg/dL), metabolic acidosis (pH 7.2, HCO<sub>3</sub> 13.5 mEq/L), acute kidney injury (creatinine rising from 247 to 782  $\mu\text{mol/L}$ ), hyperkalemia (up to 6.6 mmol/L), and elevated lactate consistent with severe sepsis and multi-organ dysfunction. Initial management included empiric broad-spectrum antibiotics (piperacillin-tazobactam), antipyretics, insulin infusion, IV fluids, and correction of electrolyte imbalances, with sepsis workup and cultures obtained.



## HOSPITAL COURSE

- **Day 1:** Developed seizures, hypoxia, and worsening mental status; intubated and transferred to ICU. Cranial CT showed small infarcts and ventricular dilation.
- **Day 2:** Thyroid storm diagnosed (FT4 27.8 pmol/L, TSH 0.254  $\mu\text{IU/mL}$ , Burch-Wartofsky score 75); started on propranolol, PTU, and steroids. Persistent hyperkalemia and renal failure required CRRT/hemodialysis. Antibiotics escalated to meropenem and vancomycin; blood cultures grew *Streptococcus pneumoniae*, while ET aspirate yielded ESBL-Klebsiella pneumoniae.
- **Day 3:** Neurologic decline with absent responses and multifocal cerebral infarcts on repeat imaging. Refractory hyperkalemia persisted despite repeated interventions.
- **Day 4:** Recurrent seizures, bradycardia, hypotension, and eventual asystole during dialysis; patient expired after DNR decision.

## CONCLUSION

OPSI remains a rare but catastrophic emergency that can be obscured by overlapping crises such as metabolic, neurologic, and endocrine complications. Lifelong vigilance, preventive vaccination, patient education, and rapid multidisciplinary intervention are essential to improving outcomes in asplenic patients.

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