

## Management of Emergent Complications associated with End Stage Renal Disease

Sir,

Diabetic nephropathy is a chronic medical complication that results in excretion of albumin in urine. Excretion of albumin in urine affects the filtration function of kidney and leads to several other complications.<sup>1</sup> We describe case of an End Stage Renal Failure (ESRF) patient with several comorbidities.

A 55-year Malay lady with ESRF presented to Hospital Univeriti Sains Malaysia (HUSM) with complaint of severe pain on left ankle for the past couple of days. Upon examination, physician found a dry wound without pus and sloughed tissues that indicated diabetic foot ulcer. Brief medical history showed that she has been on hemodialysis for the past 7 years. She was concurrently suffering from Diabetes Mellitus (DM) and Hypertension (HTN) secondary to ESRF. She reported of missing her last scheduled hemodialysis session due to blockage of left AVF (arteriovenous fistula) as a result of venous aneurysm on the left forearm. Furthermore, she has been suffering from anemia secondary to ESRF.

Upon admission to hospital, vital signs were recorded. She had high body temperature, high pulse rate and elevated blood pressure 160/90 mmHg. As her previous scheduled dialysis session was missed, physician performed Renal Functioning Tests (RFTs) to check kidney function which showed high Na<sup>+</sup> (149 mmol/L), K<sup>+</sup> (6.2 mmol/L), urea (13.5 mmol/L), creatinine (832 µmol/L).

Tablet felodipine (10 mg) was prescribed to control hypertension as it has unaltered pharmacokinetics during hemodialysis and negligible dialyzability. Hence, additive dosing is not required after hemodialysis.<sup>2</sup> Treatment of diabetic foot ulcer requires multiple approaches as main goal is to heal wound with complete eradication of causative agent. In this case, Ceftazidime (500 mg) twice daily was prescribed. Ceftazidime is also

dialyzable and need initial loading dose of 1g followed by 1g dose after each dialysis session. Patient also underwent wound debridement and dressing. As infection was not healing, finally physician decided for amputation of affected foot.<sup>3</sup> For the management of anemia, oral Ferrous Sulphate tablet 200 mg twice daily, tablet Folic Acid 5 mg once daily and tablet Vitamin B Complex once daily were prescribed. Folic acid is dialyzable, thus it was planned to administer folic acid after hemodialysis. Although there are many ways to manage venous aneurysms secondary to Arteriovenous Fistulae (AVF) but the physician opted for plication of aneurysms.

End Stage Renal Disease (ESRD) is a life threatening medical complication that poses its sufferer at risk of several other serious medical complications. Appropriate treatment requires careful selection of drug and its dose especially considering dialyzable nature of most drugs.

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