中文題目：以持續性金黃色葡萄球菌菌血症及腸胃道出血作為表現之感染性主動脈瘤

英文題目：Case report: Infected abdominal aortic aneurysm presented with persistent ORSA bacteremia and UGI bleeding in chronic hemodialysis patient

作　　者：莊政皓[1,2]，吳珮瑜[1,2,3]

服務單位：[1] 高雄醫學大學醫學系; [2] 高雄醫學大學附設醫院內科部; [3] 高雄市立小港醫院腎臟內科

Introduction

Infection remains one of the major problem in ESRD group and leading to morbidity and mortality. Bacteremia, due to immune-compromise and frequent medical intervention, is 26-fold higher in risk than general papulation with incidence of 0.7 bacteremia per 100 patient-months and may resulting in serious complication.[1] Hemodialysis access including shunt and hemocatheter is the leading point of entry of bacteremia. Gram-positive bacteria accounts three of fourth pathogen in bacteremia of ESRD group. In addition, increasing resistant strain like Oxacillin-resistant Staphylococcus aureus(ORSA) is a worrisome problem and may induce metastatic lesion and grievous complication, including infective endocarditis, septic arthritis, endophthalmitis, septic embolism and, and in our case, infected aortic aneurysm.[2] Timely recognition of the underlying factor and appropriate introduction of surgical intervention adjunct to medical therapy focusing on complication of bacteremia is crucial of successful treatment. Herein, we shared a case of ORSA bacteremia with infected abdominal aortic aneurysm in hope to remind clinician about this catastrophic complication.

Case report

A 89-year-old man is with underlying disease of type 2 diabetes mellitus, hypertension and end-stage renal disease under chornic hemodialysis. He suffered from persistent ORSA bacteremia for two more months and frequent hospitalization for antibiotic treatment but in vain. Repeated non-cuffed hemocatheter exchange was performed under impression of catheter related infection and arterial-venous fistula(AVF) creation surgery postponed due to active infection. There's no marked infection sign such as local heatness, swelling, erythematous change or tenderness over the failed left arm AVF. Echocardiography was also performed and no evidence of vegetation presented. This time, he was taken to our emergency department due to intra-dialysis hypotension and intermittent tarry stool passage found for several days. Upper gastrointestinal tract bleeding complicated with hypovolemia was impressed and general condition was much improved after blood transfusion. However, progressive epigastralgia and persistent melena was observed during hospitalization and marked muscle guarding developed later. Abdominal computed tomography(CT) revealed a multi-loculated supra-renal aortic aneurysm, sized 6*5*9cm, with marked peri-aortic infiltration and suspicious contrast-leakage into the false lumen. Diffuse mesenteric fat plain infiltration is also presented and compatible to clinical peritonitis. Mild ascites was also presented and hemo-peritoneum cannot be ruled out. Besides, the vascular root of celiac trunk and superior mesenchymal artery(SMA) is found to originate from the false lumen of huge aneurysm mass. Surgical intervention with debridement and reconstruction was suggested in addition to medical therapy but refused by the patient and family due to old age and high perioperative risk.

Unfortunately, the patient suffered from sudden death 1 week later during intensive care unit stay.

Discussion

Native artery vessel with normal endothelium function is resistant to bacteria seeding and invasion even under bacteremia status. There's several risk factor known to predispose the development of infected aneurysm, including immune-compromise status and arterial luminal defect related to atherosclerosis, artery trauma or pre-existing aneurysm, coarctation.

In our patient, chronic renal failure related immune-compromise and prominent pre-existing aortic atherosclerosis may make the patient susceptible to arterial infection. The huge abdominal aortic aneurysm is the victim of primary Staphylococcus aureus bacteremia but also the source of repeated bacteremia despite appropriate antibiotic treatment. In such a refractory MRSA bacteremia scenario, clinician tend to focus on possible infective endocarditis and recurrent hemodialysis access infection due to their high incidence in ESRD group. However, we should keep in mind that infected aneurysm is still one of the possible etiology and may result in deadly outcome. The compromised celiac trunk and superior mesenteric artery flow with orifice overlying on the infected aortic aneurysm may, in our assumption, contributed to symptoms of bowel ischemia, diffuse abdominal pain and gastro-intestinal tract bleeding which is not well controlled by PPI use. However, the patient is not suitable to endoscopic study and no direct visualizing image as evidence.

Antibiotic treatment combined surgical intervention is considered the best management policy under consensus due to high mortality rate up to 60-100% in antibiotic-along treatment group of previous review. Empiric broad-spectrum antibiotic should be initiated according to local microbiology and susceptibility, especially coverage of Staphylococcus and Salmonella species due to high prevalence, then tailored according to blood and surgical specimen culture result. Minimum of 6 weeks to 6 months antibiotic therapy postoperatively is suggested according to clinical presentation and type of surgical intervention. Life-long suppressive antibiotic therapy should be considered especially in patients unable to receive optimal surgical debridement or endo-vascular treatment only.