

中文題目:多米諾骨牌效應:急性胰臟炎終導致永久性完全性房室結阻斷-案例報告

英文題目: Domino Effect: Acute Pancreatitis Contribute to Final Permanent Complete AV Block - A Case Report

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Background: Patients with complete AV block (so-called third-degree AV block) usually suffered from marked symptomatic bradycardia and hemodynamic instability. Many diseases may lead to complete AV block, but the most common condition is coronary ischemia. Progressive damage of the electrical conduction system of the heart can lead to complete AV block. Otherwise, acute myocardial infarction may present with third-degree AV block.

Case report: A 85-year-old woman who had diabetes mellitus and hypertension was found unconsciousness and brought to our ER. EKG showed asystole and CPR was performed continuously. ROSC(recovery of spontaneous circulation) was found 6 minutes and she was admitted to ICU. Arterial blood gas data showed pH 7.08, other lab data showed serum potassium level 7.5 mEq/l, blood sugar 878mg/dl, serum creatinine 3.0mg/dl, BUN: 64.9mg/dl, GOT: 589, GPT: 510, rGT: 123, Amylase: 388, Lipase: 498, CK: 79, CK-MB: 53.8, EKG showed complete AV block with ST depression over V4-V6 leads. After medical therapy for hyperkalemia and hyperglycemia included of fluid resuscitation, sodium bicarbonate, calcium chloride, and insulin intravenous injection, AV block did not improve and coronary catheterization was performed. Coronary angiography showed severe stenosis over RCA and LCX, and coronary intervention was performed successfully with transient transvenous pacemaker support. The renal function improved evidenced by serum creatinine: 1.2mg/dl, BUN: 43.2mg/dl. Aspiration pneumonia was treated with systemic antibiotics: Augmentin. Pulmonary congestion improved by diuretics use but bilateral pleural effusion was still noted, considered about pre-renal kidney injury, we decreased diuretic dose and bilateral pleurocentesis was performed to increase lung capacity and improve respiratory pattern. Tarry stool with anemia was found and blood transfusion was given with IV PPI therapy. Persisted complete AV block was still noted and we arranged permanent pacemaker implantation (DDD mode). Follow up lab data showed CK-MB: 25.4, K: 3.2, GOT: 27, GPT: 14, rGT: 123, Amylase: 74, Lipase: 97, Hba1c: 10.5%. The patient was discharged on the 13th hospital day.

Discussion : There was no published document about acute pancreatitis complicated with complete AV block. We also considered that there was no direct associated mechanism between pancreatitis and heart block. However, acute pancreatitis in our case, with multiple comorbidity and complications, just like a chain reaction, contribute to permanent complete AV block. The Domino effect (so-called chain reaction) may work as pancreatitis contributed to severe endocrine dysfunction and poor intake, included of severe hyperglycemia (especially in a patient with poor controlled diabetes), and these conditions contributed to acidosis and electrolytes imbalance such as

hyperkalemia, unfortunately, cardiac asystole was happened. Although rapid ROSC after CPR, the irreversible damage to AV node was established in a patient with preexisted severe coronary artery disease. Therefore, even if the condition of kidney, liver, pancreas, lung, and heart all improved, the function of AV node could not be back to normal. Luckily, to treat complete AV block, we had an efficient and reliable magic weapon: the pacemaker. Finally, we stopped the Domino effect, let the 85-year-old lady can go home on foot.

Conclusion : Some diseases presented emergently and critically, with multiple complications and may be life-threatening. To manage such complicated condition, we must think about the patient rather than disease. Confidence and team work, positive attitude and indomitable spirit, may lead to a miracle.