CORONARY HEART DISEASE COMPLICATED WITH

CONGESTIVE HEART FAILURE

CASE DISCUSSION

This 70 years old male has the history of hyperlipidemia and exertional dyspnea for about 4 years. He experienced an episode of chest tightness which occurred suddenly in the morning on September 1, 1999. On arrival, he was cyanotic and the blood pressure was undetectable.

Q1: What is (are) the appropriate management(s) in this emergent situation?

Defibrillation was applied successfully for ventricular tachycardia but shock persisted. Electrocardiogram showed poor R wave progression in V1-V5, ST elevation in V1-V5, I, and aVL. Chest auscultation revealed diffuse crackles over bilateral lung fields.

Q2: What is the most possible diagnosis? Who should be consulted and what kind of intervention should be taken?

Under the impression of acute myocardial infarction, Killip IV, emergent coronary angiography was performed and primary T-stenting was applied successfully to combat the 90% stenotic lesions involving the distal left main coronary artery. After angioplasty, distal LAD got TIMI Grade III flow and cardiac enzyme peaked at 17 hrs after the onset of chest pain.

Unfortunately, fever up to 38 ˚C developed on September 10, 1999 and he was put on respirator again. Sputum culture yielded *Klebsiella pneumonia* and *Haemophilus parainfluenzae*. After appropriate antimicrobial treatment, fever subsided and he weaned from ventilator successfully on October 1, 1999. However, fever and acute lung edema reoccurred on October 10, 1999.

Diflucan and vancomycin were applied for *Candida albican* in blood culture and methicillin-resistant *Streptococus epidermidis* (MRSE) cultured from central venous catheter. After successful extubation, he was transferred to general ward on October 19, 1999.

Q3: Upto now, what is the major precipitating factor for his congestive heart failure and respiatory failure?

However, the symptoms of heart failure, including othopnea, hypotension, and oliguria, persisted. Radionuclide ventriculography showed global hypokinesia. The ejection fraction was 13% for left ventricular and 35.6% for right. Dopamine infusion, parenteral diuretics, and digoxin were applied. Symptoms exacerbated while tapering dopamine.

Q4: Are digitalis and diuretics effective in the treatment of congestive heart failure? What are the monitoring parameters?

Q5: Although catecholamine infusion may be effective in symptom relief, will it be benifitial if long term positive inotropic agent is applied?

Q6: Is (Are) there agent(s) other than diuretics and digitalis that would help in the catecholamine-dependent condition? What are the monitoring parameters?

Captopril was titrated up gradually based on renal function and systemic blood pressure. Dopamine was tapered off successfully on February 27, 2000 and he was discharged on March 1, 2000 with the following medications: captopril 6.25 mg bid, digoxin 0.125 mg QD, bumetanide 1mg QD, spironolactone 25 mg QD, aspirin 100 mg QD, simvastatin 20 mg QD.

Followed-up at outpatient clinic, he was in NYHA function class III and radionuclide angiogram on April 17, 2000 showed LVEF 17.5%. Captopril was shifted to valsartan for irritative cough and the dose was gradually increased to

80 mg per day. Carvedilol 6.25 mg was applied thereafter. His exercise capacity improved to walking for two hours without dyspnea and LVEF increased to 24.2% in September 2000.

討論題目

1. What is the major cause of congestive hear failure on September 1, 1999 in this case?

2. What is (are) the underlying condition and the precipitating factor(s) of repeated heart failure from September 10 to mid-October 1999?

3. What are the appropriate regimen for congestive heart failure in this case of poor ventricular function and hypotension?
   (a) Is positive inotropic agent (eg. dopamine or dobutamine) necessary?
   (b) What is the optional dose of diuretics? What are the monitoring parameters?
   (c) What is the appropriate timing for adding ACE-inhibitor? What are the monitoring parameters?
   (d) Will beta-blocker be added? If yes, what is the appropriate timing and the dosage? What is the monitoring parameters?