Nightmare in Cath Lab: In Stent Restenosis with Fistula from the Coronary to the Pulmonary Artery

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Nightmare in Cath Lab: In Stent Restenosis with Fistula from the Coronary to the Pulmonary Artery

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ABSTRACT

AV reentrant Tachycardia (AVRT) is a common type of tachycardia that occurs in (*Wolff-Parkinson-White*) WPW syndrome. Correlation between artery venous malformation with WPW syndrome is rarely reported. We report a case of 63 years old male patient that was diagnosed with AVRT with WPW syndrome that probably associated with *left main fistula*. This case followed by a review of literature covering the diagnostic and association between fistula and WPW syndrome.

***Keywords:**, AV reentrant Tachycardia , Wolff-Parkinson-White Syndrome, left main fistula*

BACKGROUND

Supraventricular tachycardia (SVT) is a type of tachyarrhythmias which is characterized by a sudden change in heart rate range between 150 bpm to 280 bpm. One type of SVT is AV reentrant tachycardia which is often found in WPW cases. Arterial malformations and also vascular malformations of the coronary sinus are known to be found in patients with WPW syndrome. However, cases of pulmonary coronary artery fistula rarely accompanied by WPW syndrome are rarely found.

SVT cases with WPW syndrome are present in 10-20% of cases. The prevalence of SVT at the Indonesia ranges from 9% of all arrhythmia patients and 1.26% - 1.42% of the total number of hospital visits. Until now, the data on the prevalence of SVT in the general population in Indonesia is unknown, as is the prevalence of patients with fistulas and WPW syndrome.

The mechanism of AVRT is caused by an accessory pathway which acts as an aberrant pathway to channel impulses from the sinoatrial node and runs antegrade or retrograde through the pathway, causing the reentry circuit. One of the complications that can occur is heart failure until sudden death.

CASE PRESENTATION

A 63-year-old male patient admitted to hospital with recurrent chest pain. On initial physical examination BP: 120/80 mmHg, HR: 60 bpm, no sign of heart failure. He had a past history of diabetes. The patient then planned for coronary angiography and percutaneous coronary intervention.

RELEVANT TEST RESULTS PRIOR TO CATHETERIZATION

Electrocardiogram showed sinus ryhtm, HR 60 bpm, normal axis, q wave at inferior, poor R wave progression V1-V3 and unifocal VES. **[Fig 1]** Echocardiography revealed LVEF 30.7%, eccentric left ventricular hypertrophy, hypokinesia at the anteroseptal, inferior, inferoseptal wall. Laboratory findings showed elevated random blood glucose.

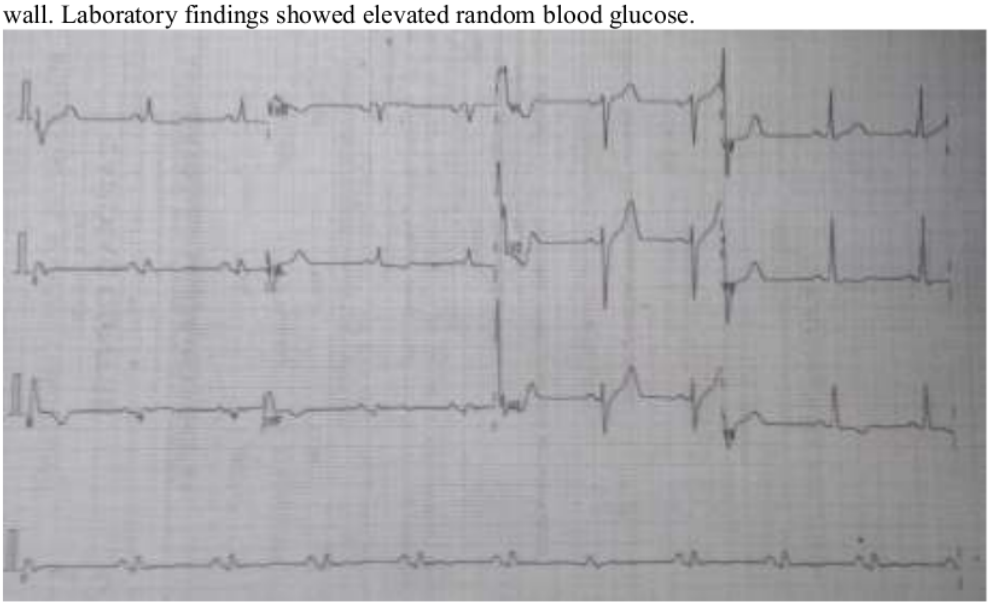

Figure 1

RELEVANT CATHETERIZATION FINDINGS

Angiography showed mid stenosis 90% at LAD, proximal stenosis 85%, distal stenosis 80%, , multiple stenosis proximal-distal stenosis 70-80% at RCA. Patient then planned for PCI at RCA. MSCT Scan showed fistula from Left Main coronary artery to pulmonal artery. **[Fig 2]**

Figure 2

INTERVENTIONAL MANAGEMENT

Procedural Step

Righ Coronary Artery was cannulated with a 6F Judskin Right Guiding catheter through radial access, then wiring with Run-through floppy guide wire through distal RCA. Predilatation with balloon Maverick 2.0x20 mm with pressure 12 atm. Intracoronary heparin injection was performed. We implanted 2 DES. First DES (Cre-8 3.0x38mm) planted at mid-distal RCA with pressure 14 atm, another DES (Cre-8 4.0x38 mm) planted with pressure 10 atm at proximal RCA overlapped at the first one. Angiography result after PCI showed TIMI 3 flow, no evidence of dissection, perforation nor residual stenosis.

After procedure

1 month after procedure the patient complained recurrent chest pain, the we processed to performed PCI at LAD and evaluate patency of stent at RCA.

When patient at cath lab room, nightmare happen, patient complained palpitation and from ECG showed supraventricular tachycardia AVRT. **[Fig 3]** We performed electrophysiology study and terminated SVT with pacing to HRA. **[Fig 4]** After termination ECG showed PR interval and delta wave so we concluded with wolff parkinson white syndrome.

After that, we perform coronary angiography and found 90& in stent restenosis at distal with fistula from left main to pulmonal. **[Fig 5]** Then we proceed to balloning at distal RCA and

implanted another stent at proximal to mid LAD with stent DES (Cre-8 2.75x31mm). Angiography result after PCI showed TIMI 3 flow, no evidence of dissection, perforation nor residual stenosis.

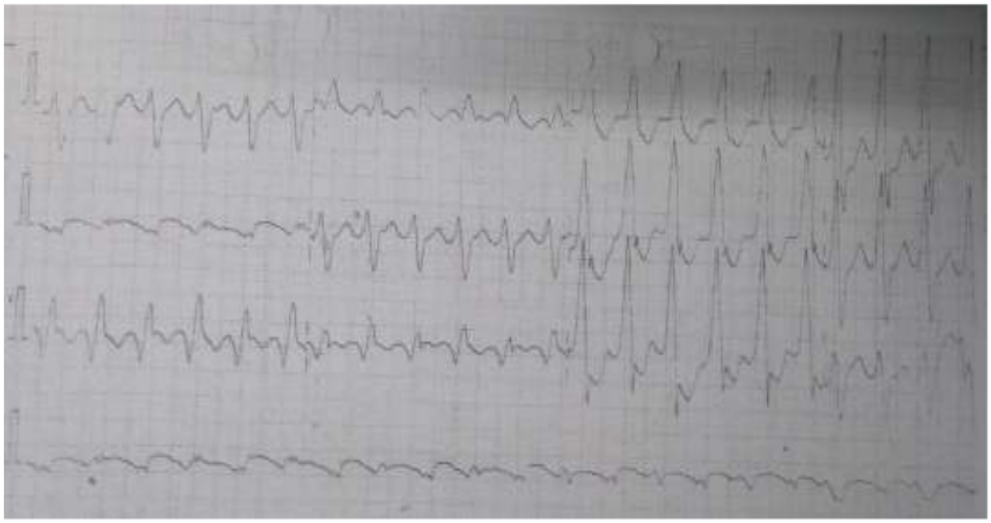

Figure 3

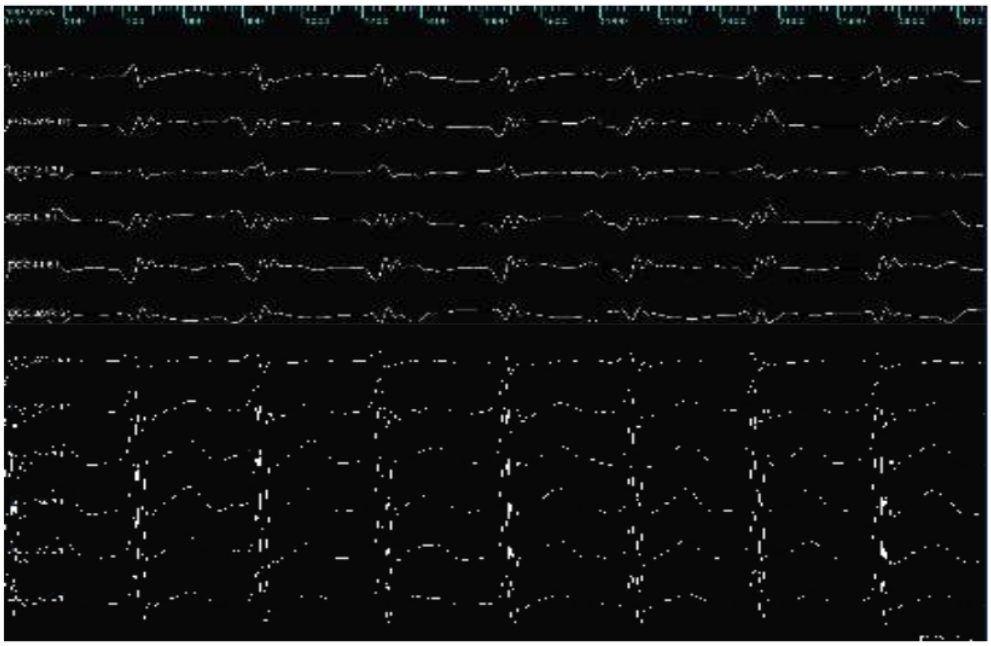

Figure 4

Figure 5

DISCUSSION

The incidence of coronary anomalies varies between 0.6% and 1.5% of patients undergoing coronary angiography. There were two cases that reported an association between WPW and vascular malformations. The first case was autopsy result of a 79-year-old patient that obtained a vascular lesion near the coronary sinus which contained muscle fibers in the subpericardial wall, formed an accessory pathway between the atria and ventricles.

The second case was a 52-year-old patient with WPW syndrome and a fistula from the left anterior descending artery to the pulmonary artery. This is also associated with the presence of vascular malformations in the coronary sinus.

However, the exact cause of the correlation between heart blood vessel malformations and WPW syndrome is not yet known. Treatment for this case is ablation at the accessory pathway and we continue medication for ACS.

SUMMARY

This case showed a patient with wolff parkinson white syndrome and coronary artery fistula that can cause arrhytmia (supraventricular tachycardia). This patient developed from arrhytmia before the procedure. Then we performed electrophysiology study and SVT was terminated. After that, we performe PCI at LAD and ballonging at RCA. In stent restenosis may be caused by patient habit (still smoking after the first procedure).
After procedure patient then given medication according to ACS guidelines and planned for ablation at the accessory pathway of WPW.

REFERENCE

Al-Khatib SM, Pritchett EI, Durbam N. Clinical features of Wolff-Parkinson White Syndrome. Am Heart J. 1999;138:403-413.

Chauhan VS, Krahn AD, Klein GJ, Skanes AC, Yee R. Supraventricular Tachycardia. *Medical Clinics of North America.* 2001; 85(2):193-223.

Fonteyne W, Nooten V, Jordaens L. Association of a Wolff-Parkinskon White Syndrome and a fistula from the coronary to the pulmonal. Acta Cardiol. 1993;48:55-58.

Robinson K, Davies M, Krikler D. Type A Wolff-Parkinson White syndrome obscured by left bundle branch block associated with vascular malformations of the coronary sinus. Br Heart J. 1988;60:352-354

The American College of Cardiology/American Heart Association/ The Heart Rhythm Society. Guideline for the management of adult patients with supraventricular tachycardia. Elsevier Inc. 2015.

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