

ALCOLHOL INDUCED VENTRICULAR TACHYCARDIA: A CASE REPORT



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ARRHYTHMIC EFFECT OF ALCOHOL

Excessive alcohol consumption can lead to cardiac arrhythmias:

- Atrial fibrillation (holiday heart syndrome)
- Atrial tachycardia
- Premature ventricular Complexes
- Ventricular tachycardia

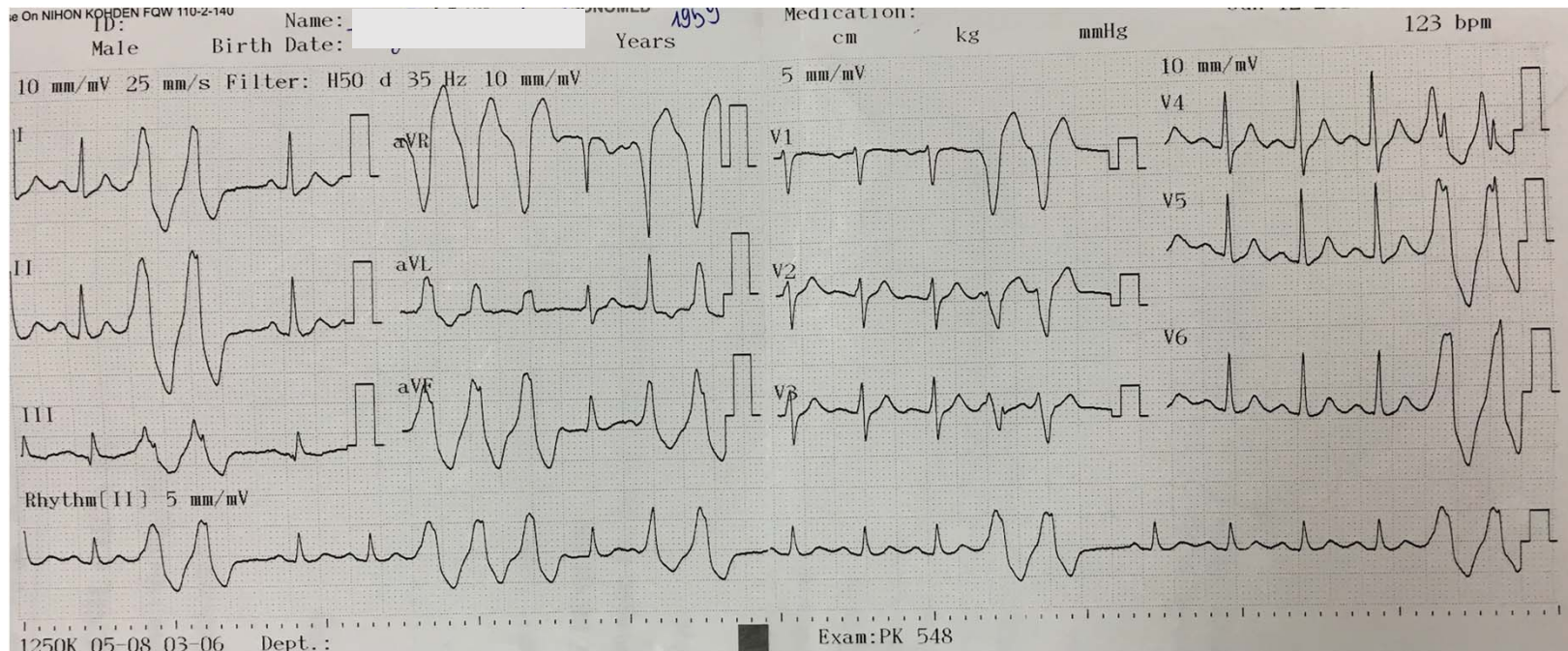


CASE PRESENTATION

- 51-year-old patient who was a medical doctor himself complained of many episodes of palpitations for 8 years
- PVC and non-sustained VT during a treadmill effort testing .
- Normal coronary
- Effective treatment with betablockers at the beginning
- After a few years, the ventricular tachycardia appeared more frequently after alcohol consumption requiring repeated amiodarone infusion.
- The ambulatory ECG between these palpitation episodes were completely normal without any ventricular arrhythmias
- He was brought to the EP lab after two episodes of palpitations due to non-sustained ventricular tachycardia within 2 weeks.



ECG



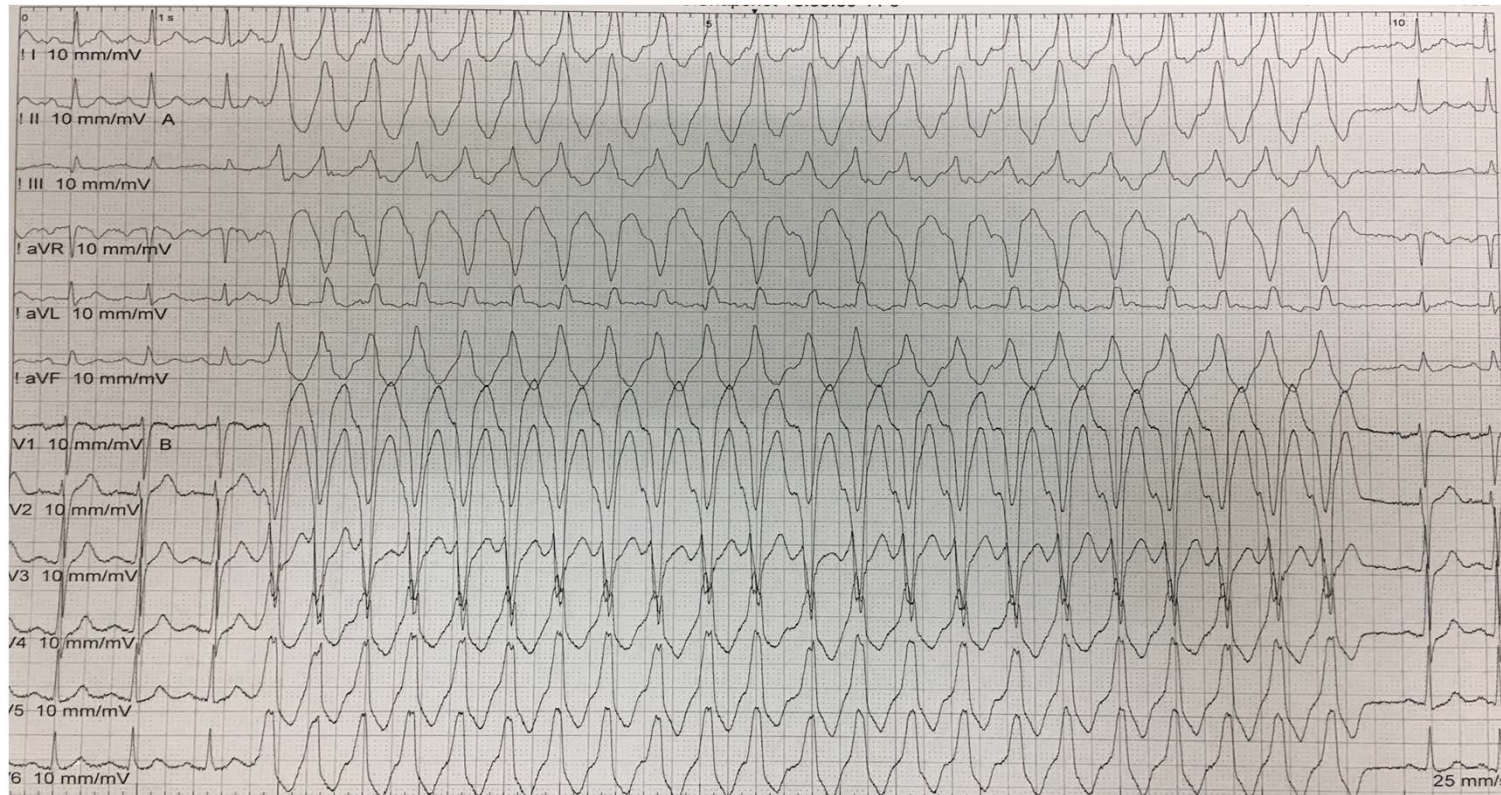


EP LAB

- There was no PVC nor VT could be detected in 30 minutes monitoring nor induced by epinephrine infusion (0.01 mg, 0.02mg, 0.03mg bolus successively).
- A treadmill exercise conducted to maximal capacity did not reveal any PVC.
- The electrophysiology study was postponed that day.
- But the patient complained of palpitations due to VT runs in the very next hour.

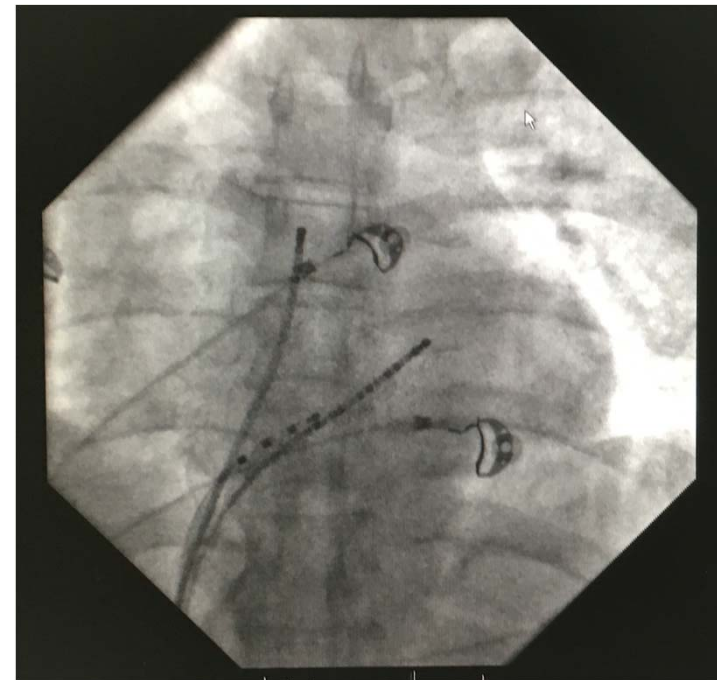
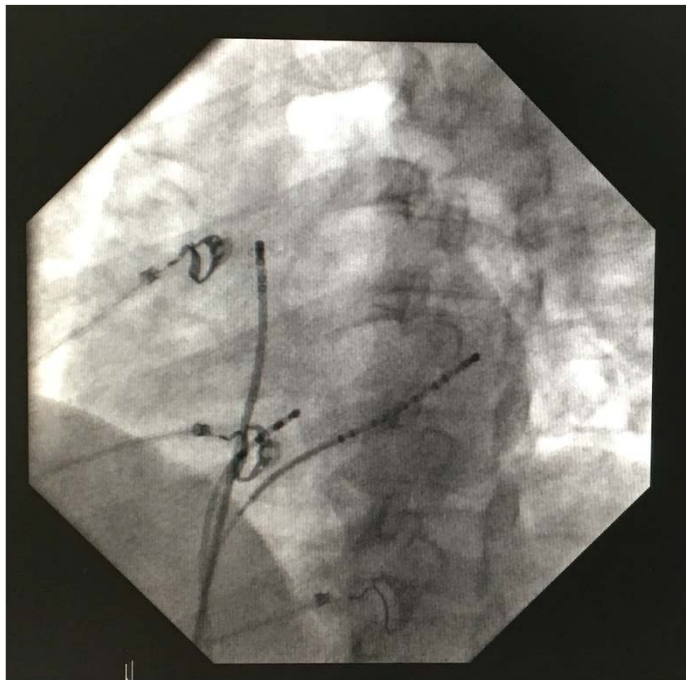


ECG IN THE EP LAB





FREEWALL RVOT VT ABLATION

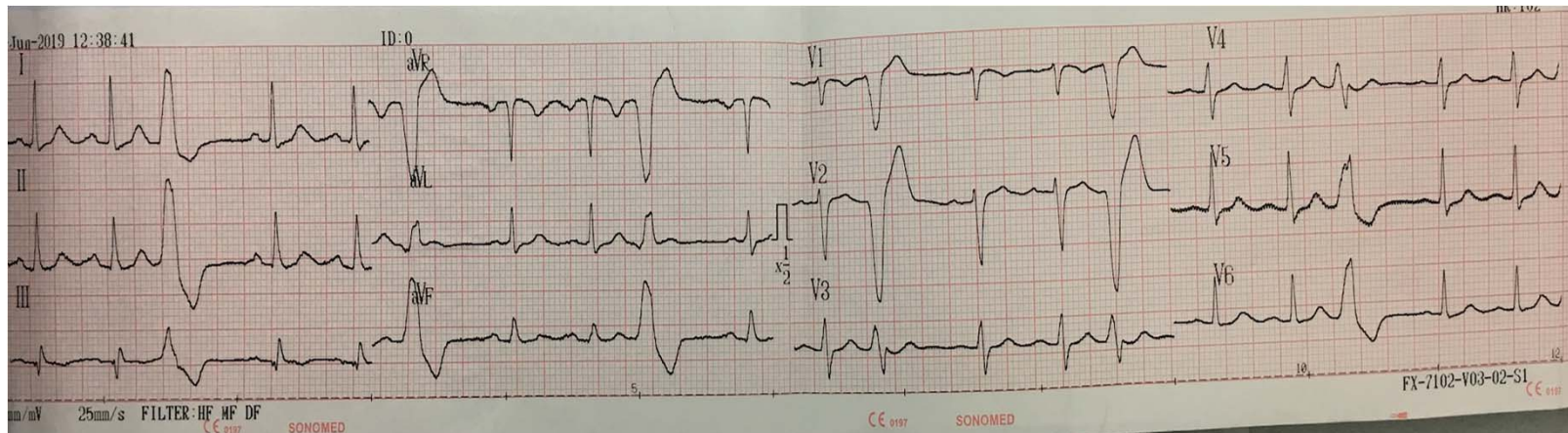


Hyperkinetic motion of the heart



SURPRISE OF THE PATIENT'S STATEMENT

- After the procedure, the patient declared just having about 100 ml of alcohol 40° to induce this VT.
- However, palpitations the day after revealed a trigeminy PVC recurrence with the same morphology
- Incomplete ablation lesion secondary to unstable catheter due to the hyperkinetic heart motion





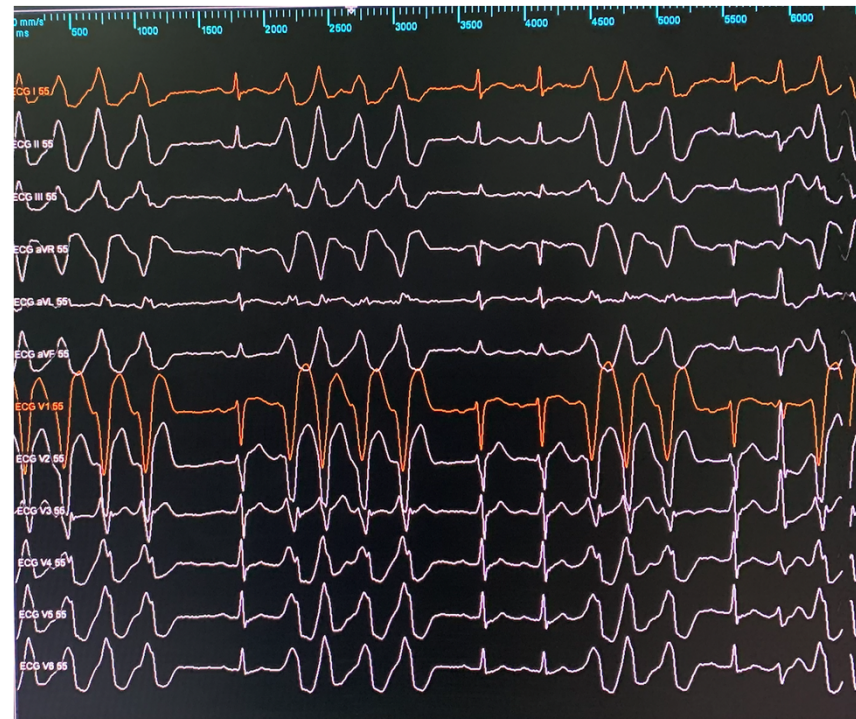
AFTER THE FIRST ABLATION

- We decided to continue medical treatment with metoprolol succinate 50 mg o.d. and alcohol abstinence advice.
- Six months later, he was still symptomatic with episodes of palpitations without precipitant factors.
- The patient was brought to the EP lab again and in the absence of spontaneous PVC, he was permitted to drink 50ml of spirit (40° alcohol) and to do exercise in the lab to induce the VT.



ALCOHOL INDUCED VENTRICULAR TACHYCARDIA

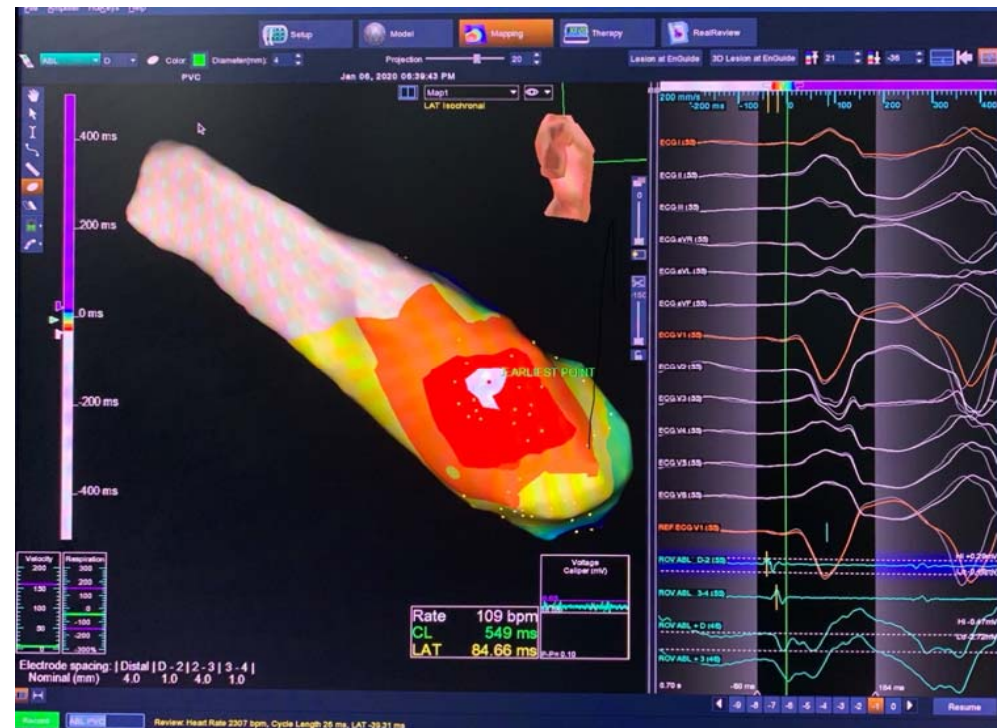
50 ml of spirit (40° alcohol)
ingestion + exercise





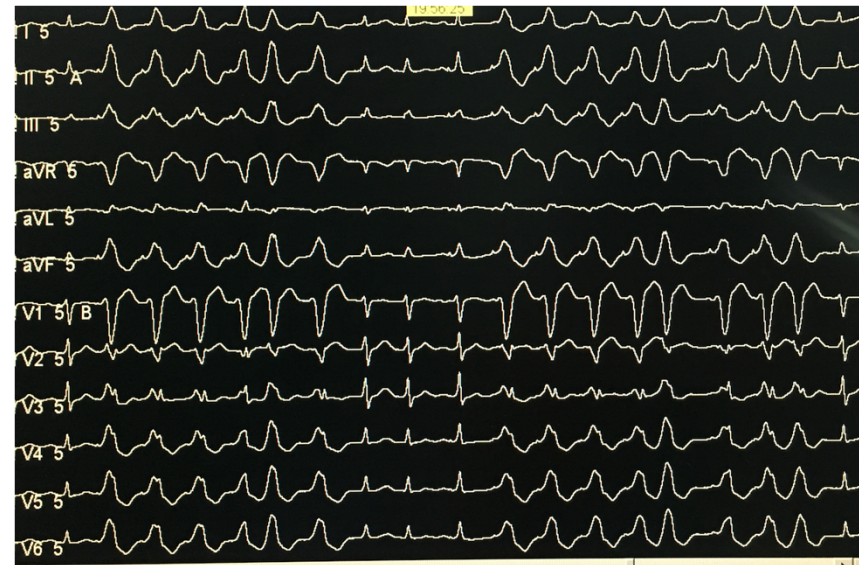
3D MAPPING OF RVOT

- Using the 3D system mapping (Ensite Velocity, Abbott[®]) to precise the VT map.
- Using Agilis sheath (St. Jude[®]) to stabilize the tip of the catheter, compensating the hyperkinetic movement of the heart.
- The origin of VT was on the free wall of RVOT with local activation time up to -32 ms before the QRS with steep QS aspect in unipolar electrogram and pace map similitude of 12/12 derivations.





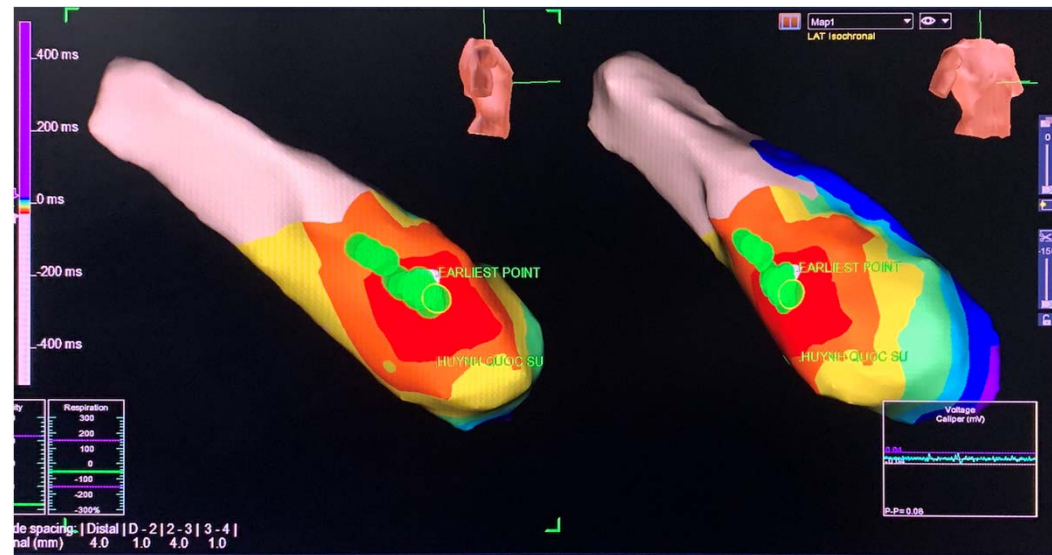
LOCAL ACTIVATION TIME AND PACE MAP





ABLATION WITH IRRIGATION CATHETER

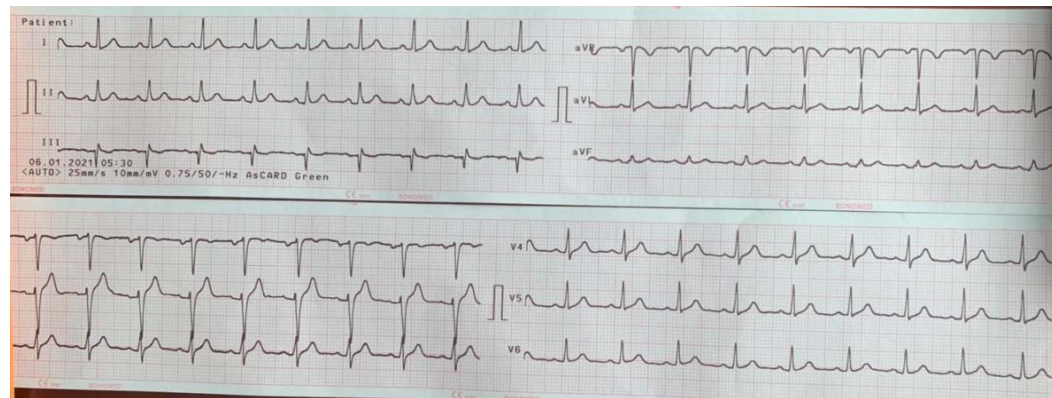
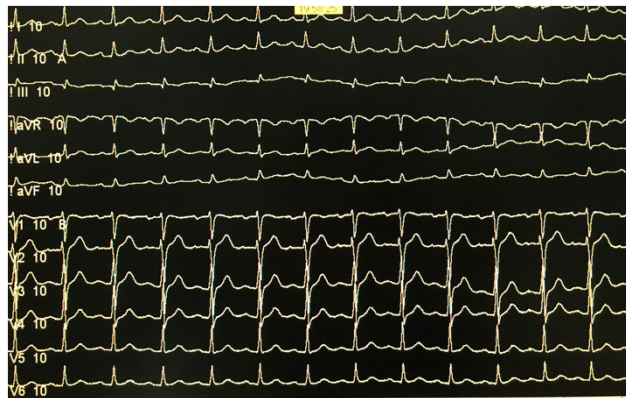
- Ablation by irrigation catheter (Flexibility, Abbott[®]) with power of 30 Watt for 6 minutes.
- Better stability of the tip of the catheter with Agilis sheath.
- The VT was silent under compression of the tip of the catheter slightly above the focus
- After ablation, challenging by epinephrine infusion (up to 0.03 mg IV), followed by 25ml ingestion of the same spirit associated with gripping hands maneuver could not induce any PVC nor VT.





AFTER ABLATION

- Ambulatory ECG: no PVC
- Asymptomatic patient in the 12 months follow up without any medications, even with beers consumption and moderate exercise (jogging for 30 minutes).



ECG after 1 year ablation



DISCUSSION

- Episodic VTs are sometimes very symptomatic to patients but presents difficulty for electrophysiology mapping especially when the arrhythmias cannot be induced in the EP lab by usual medications.
- The VT occurrence's situation reported by patient is important and trying to reproduce it in the EP lab may be helpful.
- The relationship between VT and alcohol is less evident and the use of alcohol ingestion to induce VT in the EP lab for infrequent but highly symptomatic VT is sometimes reasonable.



DISCUSSION

- Liang J.J. et al reported one patient in whom red wine consumption could induce VT and the patient was allowed to drink 100ml of red wine during the repeat ablation procedure to successfully map and ablate the superior posteroseptal RVOT PVCs.
- The alcohol intake with reasonable volume in the EP lab may be useful for inducing clinical VT, with special care to prevent inhalation pneumonia in sedated patient.
- In our case, we performed mapping and ablation under local anesthesia by lidocaine subcutaneous injection and conscious sedation by morphine intravenous injection only to prevent the risk of inhalation pneumonia and preserve the clinical VT.



CONCLUSION

- Infrequent but highly symptomatic VT could be underestimated and impose difficulties for mapping and ablation.
- Recognizing precipitant factors such as alcohol consumption may be useful to reproduce the clinical VT in the EP lab.
- Discussion and decision making should be shared between patient, electrophysiologists and anesthesiology colleagues when giving patient the permission of drinking alcohol in the EP lab.



Thank you



Korean Heart Rhythm Society COI Disclosure

Name of First Author:

The authors have no financial conflicts of interest
to disclose concerning the presentation



Disclosure

Relationships with commercial interests:

- Grants/Research Support:
- Speakers Bureau/Honoraria:
- Consulting Fees:
- Other: