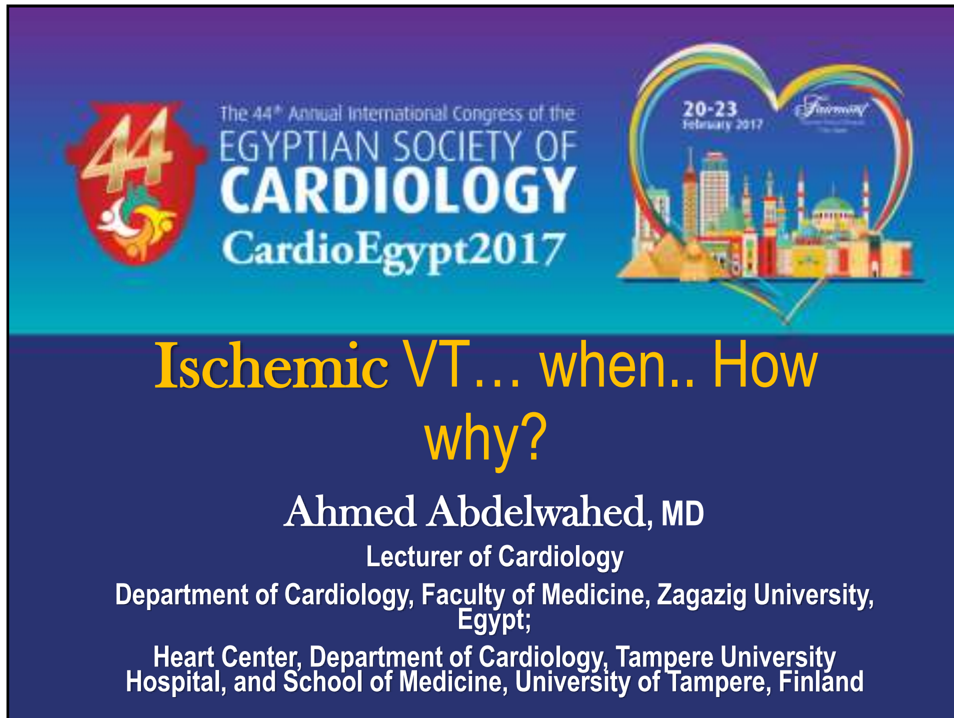
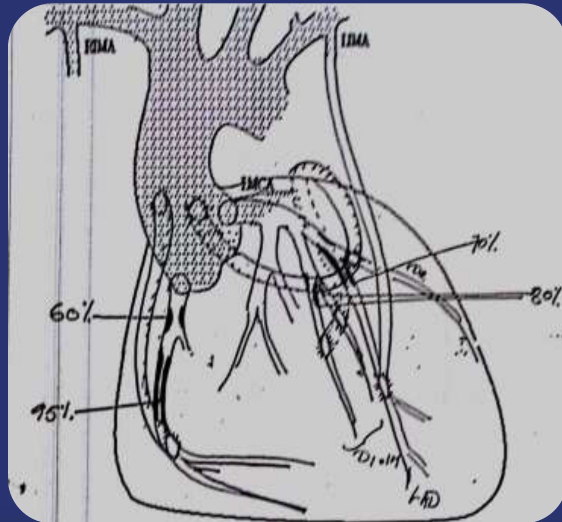


History

- A 60 years old male patient with irrelevant family history
- Hypertension for 25 years
- Diabetes Mellitus for 20 years
- hyperlipidemic state.
- Old antroseptal MI 20 y ago managed by thrombolytic therapy.
- 5 years patient underwent CABG.

history

- CABG 15 y ago
- Medically controlled.



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Present

- Palpitation for few days, he didn't care for !
- Until suddenly:

acute chest pain associated with palpitation and presyncope and dizziness for few minutes.

ER: urgent admission for evaluation in the CCU.

LAB: -ve cardiac Biomarkers

ECG: sinus with no new ECG changes than before.

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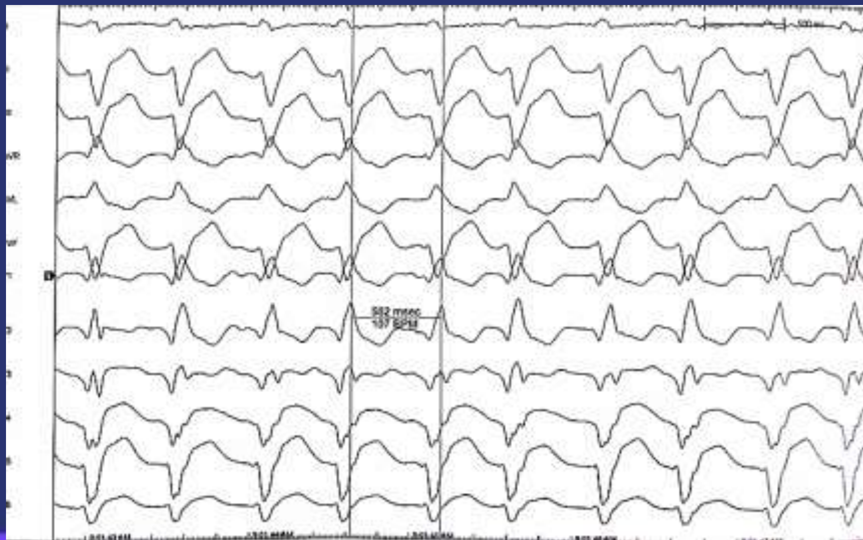
Management

Admitted to CCU:

- sustained VT with the same manifestations.
- Hemodynamic stable during the VT.
- Treated by amiodarone I.V.I; but no success. (still recurrent) Then started lidocaine I.V.I; controlled.

ECG



ECG analysis

LOCALIZATION OF VENTRICULAR TACHYCARDIA BASED ON 12-LEAD ELECTROCARDIOGRAM

we can identify the location in case of scar-mediated VT from surface ECG up to 4 cm^2.

Right	Parietal LV
Left	Septum of right ventricle
Frontal Plane Axis	
Superior	LV inferior wall or inferior septum
Inferior	LV anterior wall or anterior septum
Right	LV lateral wall or apex
Precordial Transition (R > S)	
Early	Basal LV
Late	Apical LV
Concordant upright	Mitral valve annulus

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ECG analysis

- Wide QRS complex tachycardia RBBB-like morphology early R-to-S wave transition (V2-V3), aVR and aVL QRS: positive.
- Inferior Axis.
- A-V dissociation, capture beats
- TCL: 562 ms , 107 bpm.

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Echo, CA , LV ventriculogram

Imaging

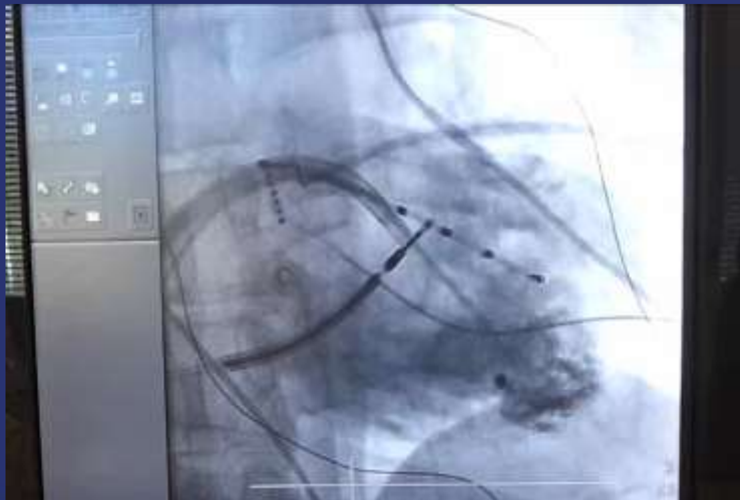
Echocardiography

- Echocardiography:
- LVEDd=67 mm, LVESd=50 mm
- reduced systolic function (EF=30%)
- Akinetic aneurysmally looking apex with severe hypokinesia of mid, apical of anterior, septal and lateral LV wall segments.
- Moderate central MR .

CA

- Evaluating the native vessels and grafts for progressive lesions or for obstructed grafts
- His CA: show no significant lesions and all grafts are patent.
- Ventriculogram was done:
- LV anterior aneurysm

ventriculogram



Treatment Plan

- ICD- physiological type was fixed.
- And started AAD: β-blocker + amiodarone.
- And for follow up.

New event

- Few weeks later:
- Patient had multiple shocks and ATPs for recurrent sustained VTs.
- Admitted to the hospital and started lidocaine but this time in vain!
- Couldn't stop the VT …..**VT storm**

what's needed?

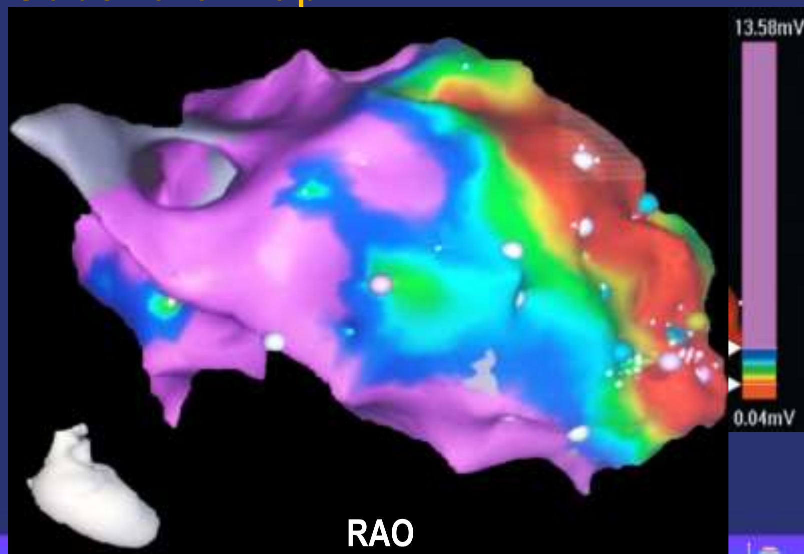
EP-study

- Substrate mapping:

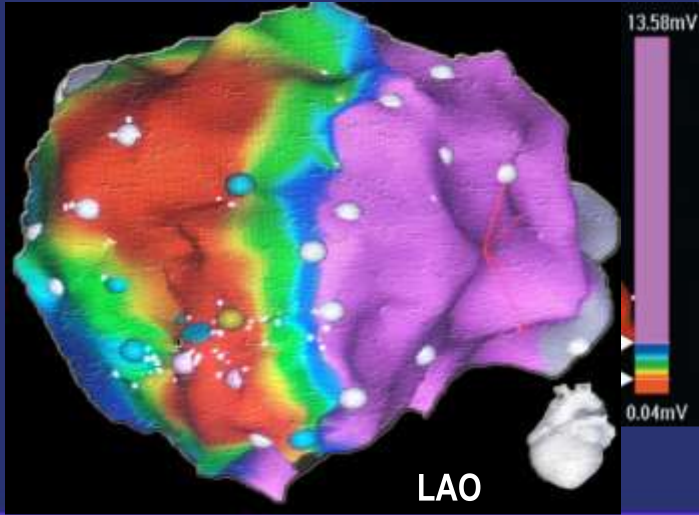
Dense voltage endocardial bipolar map created from acquisition of points by contact of the catheter locally with myocardial tissue measuring its local electrical activity.

- Tagging points that can function as channels for the VT.

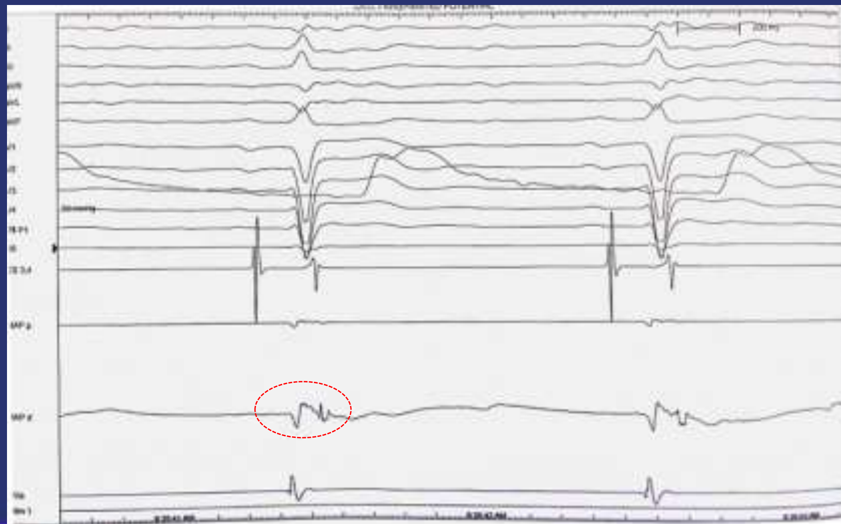
Substrate map



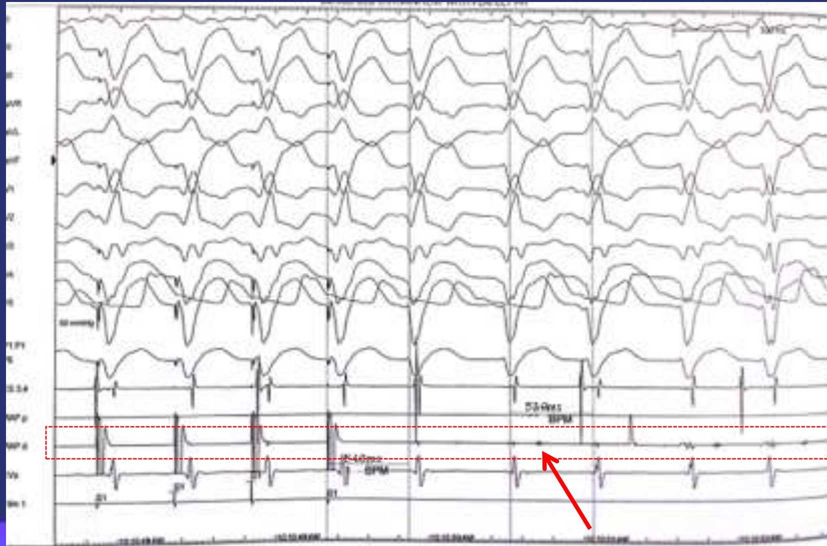
Substrate map



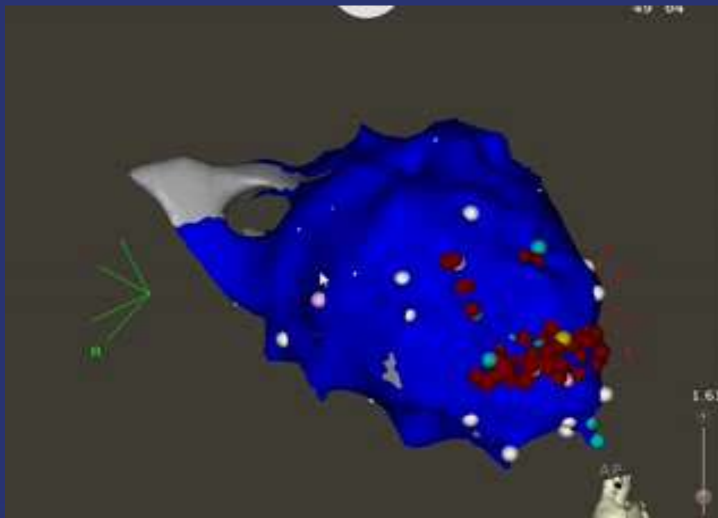
EGM



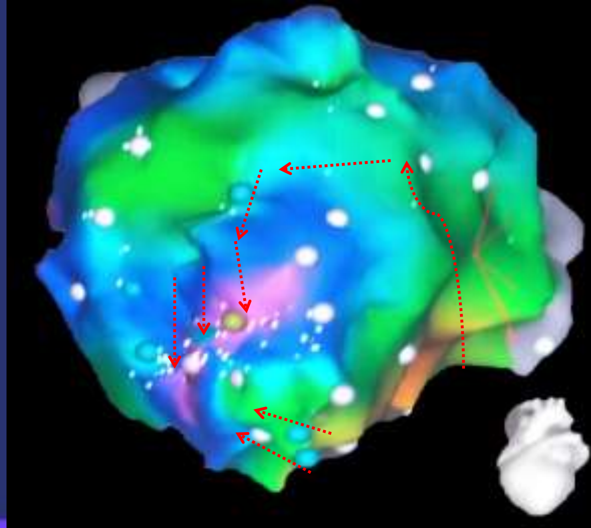
Entrainment map



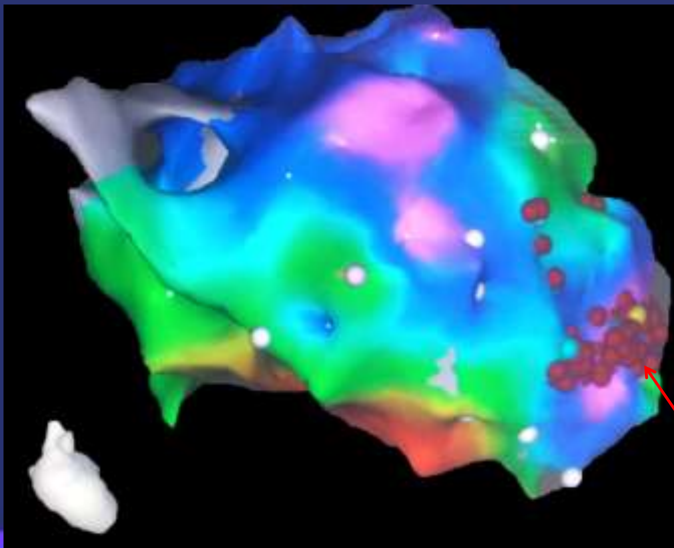
Activation mapping



Schematic VT propagation



ablation



Follow up

- Patient followed up for 24 month until now; no recurrent attacks and totally free of symptoms.
- Cath ablation is one of the greatest line of therapy in VT-storm….
- **MANTRA-VT** study is going on for recommending VT ablation early even before ICD for the 1st VT occurrance.

Take home message

When… how… why?

VT management

- How….treat… AAD , ICD , CATH ablation
- When… at 1st occurred VT… or not?
- Why…. To prevent progression…to protect… to cure
- Recently Ranalozine is considered at the last line of treatment of VT storm not responding to other AADs.

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