case conference

- 新光吳火獅紀念醫院
- 急診醫學科 R2許哲彰
- 指導者 VS 林立偉
- 101.02.04

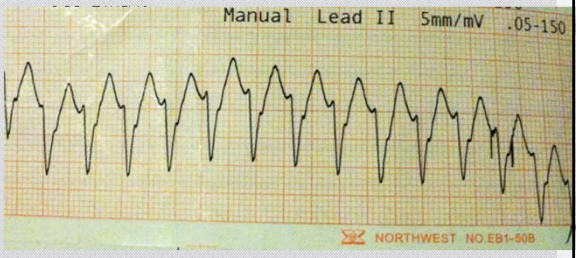
Triage

- 34 year-old male
- Vital signs: T/P/R: 36.3/195/22
- BP: 97/78 mmHg, SpO2: 100%
- Triage I
- GCS: E4V5M6
- Chief complaint: 心悸

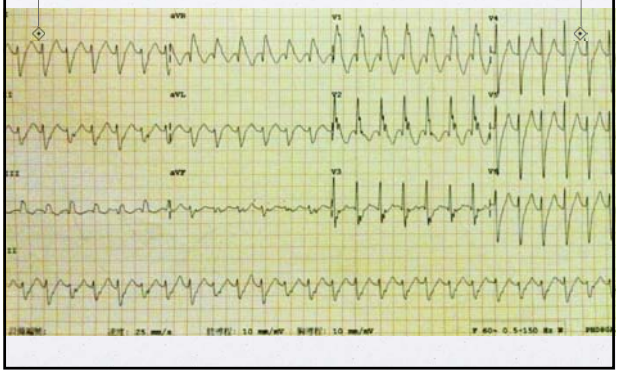
Present illness

- 心悸約1 hr, a little SOB, a little chest pain
- 以前有心律不整, 二尖瓣脫垂
- allergy: NKA

Physical examination



ECG



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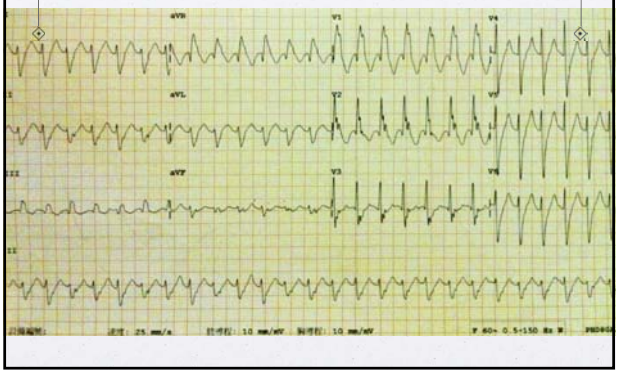
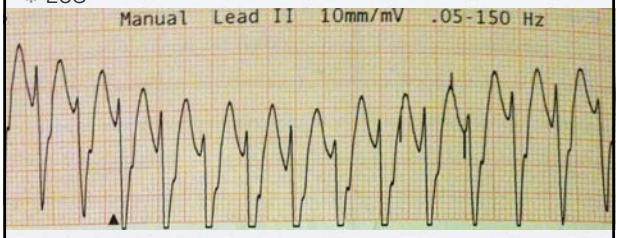


ER course 1

- on monitor
- ECG



- adenosine 6mg iv st
- amiodarone 150 mg iv st

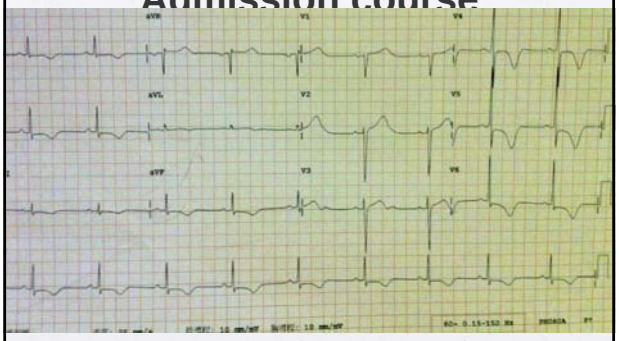
Lab data

- WBC: 8500/μl
  - Seg:56.4 %
  - Lymph: 34.6 %
  - Band: 0%
- Hb: 16.1 gm/dl
- Hct: 47.1 %
- Platelet: 329,000/μ
- GOT: 25 U/L
- BUN/Cr: 11/0.9 mg/dL
- Na/K:144/3.7 meq/L
- Troponin-I: 0.018
- CK: 60 U/L
- CKMB: 21 ug/L
- PT/aPTT:10.2/31.4 sec
- INR: 0.96

2nd order

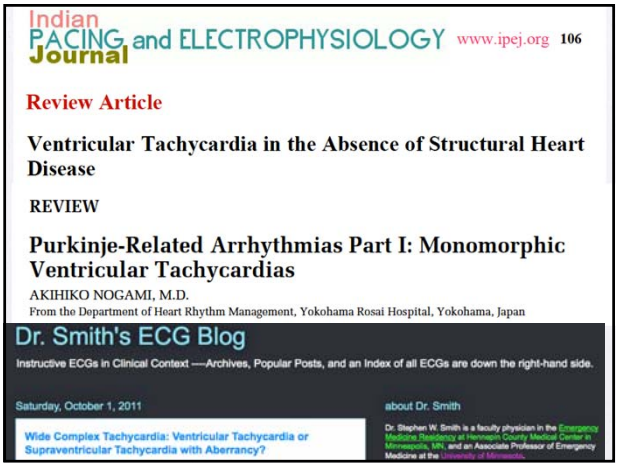
- Herbesser 20mg iv st
- consult cv
- Amiodarone 900mg in N/S 500cc run 21cc/hr
- on critical
- (Bp: 76/62 mmHg, patient con's clear) cardioversion 100J, 150J
- Vena 1amp iv st (suspect Herbesser allergy)
- admitted to ICU

Admission course



Ventricular tachycardia

- definition: 連續出現至少3個VPC, 速率>120/min



Indian PACING Journal and ELECTROPHYSIOLOGY www.ipej.org 106

Review Article

Ventricular Tachycardia in the Absence of Structural Heart Disease

REVIEW

Purkinje-Related Arrhythmias Part I: Monomorphic Ventricular Tachycardias

AKIHIKO NOGAMI, M.D.

From the Department of Heart Rhythm Management, Yokohama Rosai Hospital, Yokohama, Japan

Dr. Smith's ECG Blog

Instructive ECGs in Clinical Context —Archives, Popular Posts, and an Index of all ECGs are down the right-hand side.

Saturday, October 1, 2011

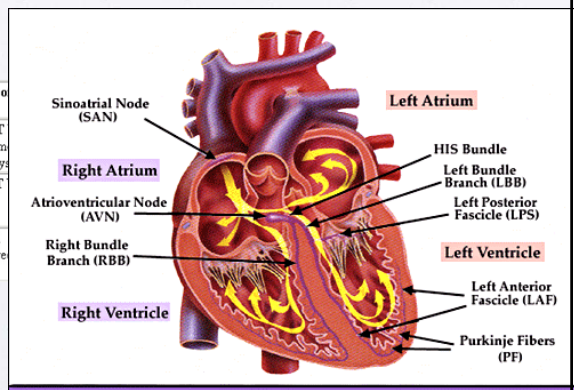
Wide Complex Tachycardia: Ventricular Tachycardia or Supraventricular Tachycardia with Aberrancy?

about Dr. Smith

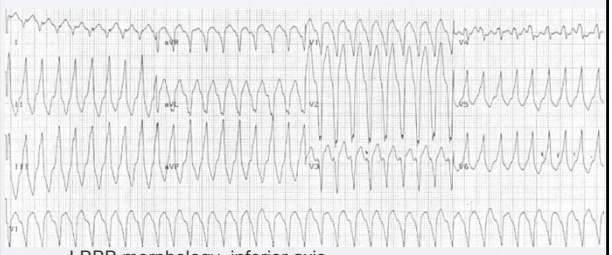
Dr. Stephen W. Smith is a faculty physician in the Emergency Medicine Residency at Hennepin County Medical Center in Minneapolis, MN, and an Associate Professor of Emergency Medicine at the University of Minnesota.

introduction

- **The rate is usually >120/min with broad QRS complexes.**
- **VT may be monomorphic (common) or polymorphic**
- **Non-sustained VT : < 30 seconds' duration; a longer duration is described as sustained VT.**
- **Sustained VT is associated with:**
  - Late phase of myocardial infarction (frequently with left ventricular aneurysm).
  - Cardiomyopathy
  - Right ventricular dysplasia.
  - Myocarditis.

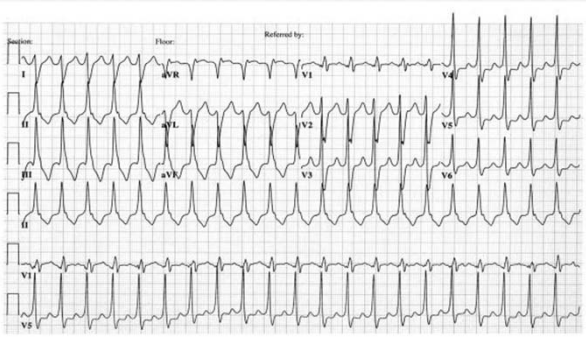


RVOT



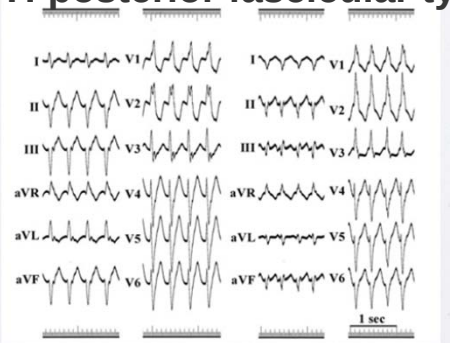
- LBBB morphology, inferior axis
- intracellular calcium overload

LVOT



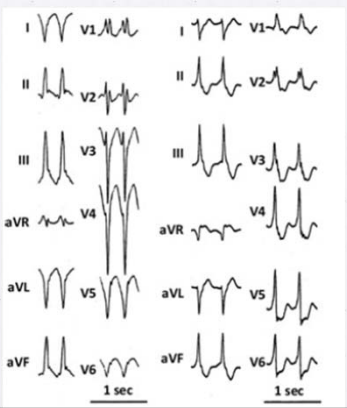
- The S wave in LI and R-wave transition in V1 suggest LVOT VT
- Mechanism ?

ILVT: posterior fascicular type



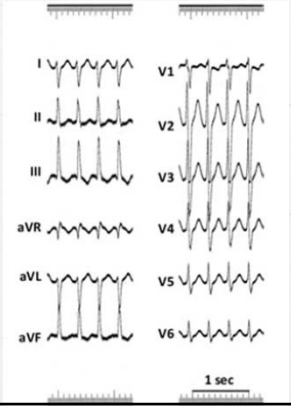
- RBBB, superior axis, left axis
- reentry

ILVT: anterior fascicular type



- RBBB, right axis
- reentry

ILVT: upper septal fasciular



- Narrow QRS
- right or normal axis
- reentry

Brugada criteria of VT

Tachycardia with a right bundle branch block-like QRS
Lead V1

Monophasic R or QR or RS favors VT
Triphasic RSR' favors SVT

Lead V6

1. R to S ratio <1 (R wave smaller than S wave) favors VT
   QS or QR favors VT
2. Monophasic R favors VT
   Triphasic favors SVT
   R to S ratio >1 (R wave larger than S wave)favors SVT

Tachycardia with a left bundle branch block-like QRS

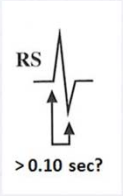
3. **Lead V1 or V2**
4. Any of following R >30 msec, >60 msec to nadir S, notched S favors VT

Lead V6

Presence of any Q wave, QR or QS favors VT
The absence of a Q wave in lead V6 favors SVT

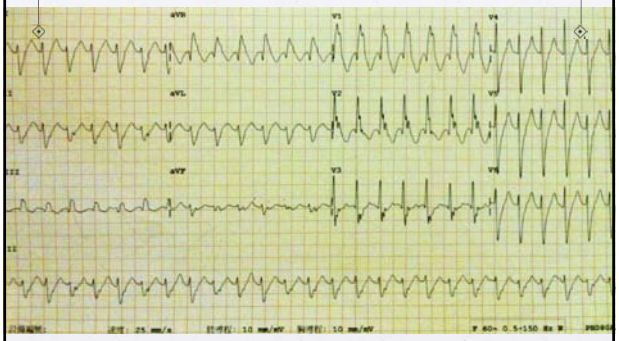
Sasaki's system

- **Step 1:** Initial R in aVR?
  --This means is there a large single (upright) R-wave (not a small r-wave) in aVR **--If yes, then rhythm is VT. If no, step 2**
- **Step 2:** In any precordial lead, is the interval from onset of R-wave to the nadir of the S ≥ 100 msec (0.10 sec)? **--If yes, then rhythm is VT. If no, step 3**
- **Step 3:** Initial r or q ≥ 40 ms in any lead?
  --If there is, this means that, for the first 40 or more milliseconds, conduction is slow as would occur through myocardium (left ventricle, VT), not through conducting fibers, as would occur in SVT)**--If yes, then it is VT. If no, then it is SVT.**

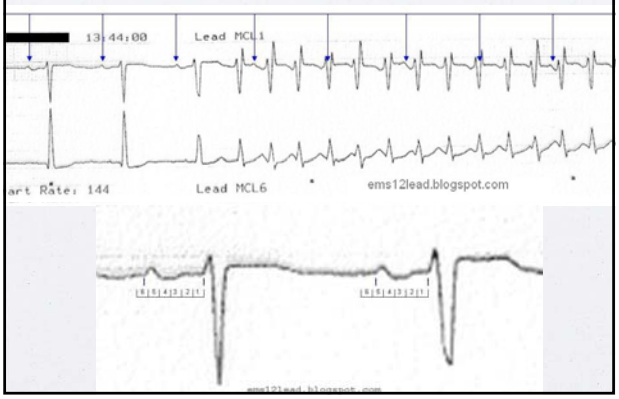


From Dr. Smith Blog

ECG



Another case



- No criteria is perfect !

ACLS

- For regular wide QRS tachycardia: adenosine is relatively safe for treatment and diagnosis (class IIb)
- Verapamil is contraindicated for wide QRS tachycardia unless known to be SVT (class III)
- IF stable and likely VT: procainamide (class IIa), amiodarone (class IIb), sotalol (class IIb), if fail => cardioversion 100J (increase if fail)
- IF VT: polymorphyic, unstable, irregular => DC shock