

SYNCOPE

Křivan L.
IKK FN Brno



Syncope

- **Transient loss of consciousness caused by reversible brain ischaemia. Patient gets conscious again without any electric, or pharmacological intervention.**



Syncope x Collaps

- **Syncope** – loss of consciousness is due to brain hypoperfusion

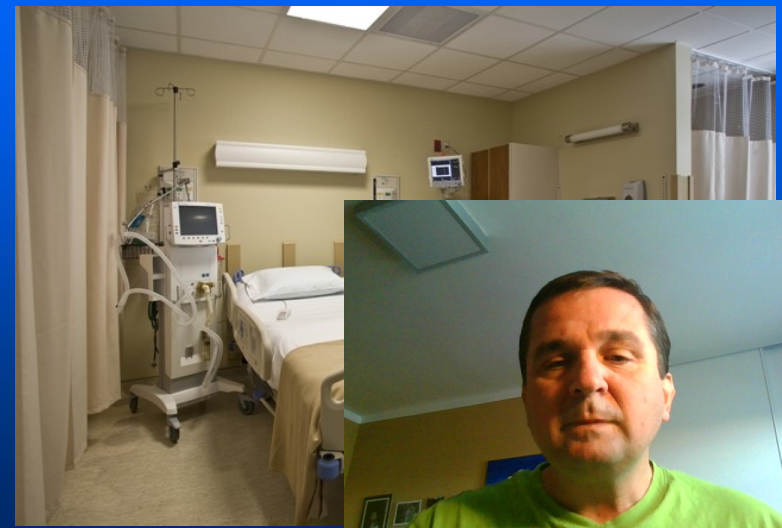
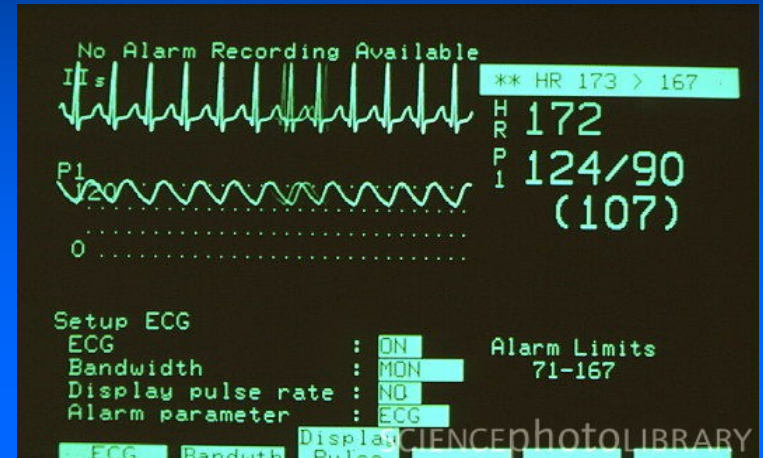


- **Collapses**
 - without unconsciousness (psychogenic, cataplexia, TIA)
 - with unconsciousness (hypoglycaemia, hypoxia, hyperventilation, seizures, intoxication)



Hospital admissions due to syncope

- 1 - 6% - all hospitalizations
- 3% - hosp. in the ICU
- 50% - out hospital diagnosis
- 92% - syncope
- 6% - non syncopal collapses
- 2% - syncope of unknown etiology



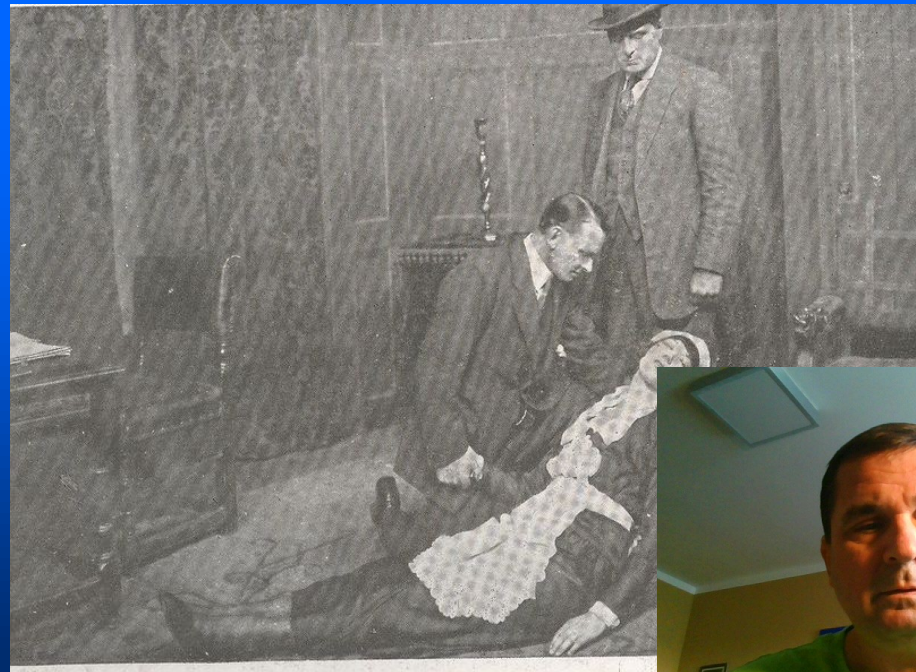
Etiology of the syncope

- Reflex (neurovegetative) 71%
- Ortostatic hypotension 11%
- Cardiac arrhythmias 12%
- Structural heart disease 5%
- Cerebrovascular 1%



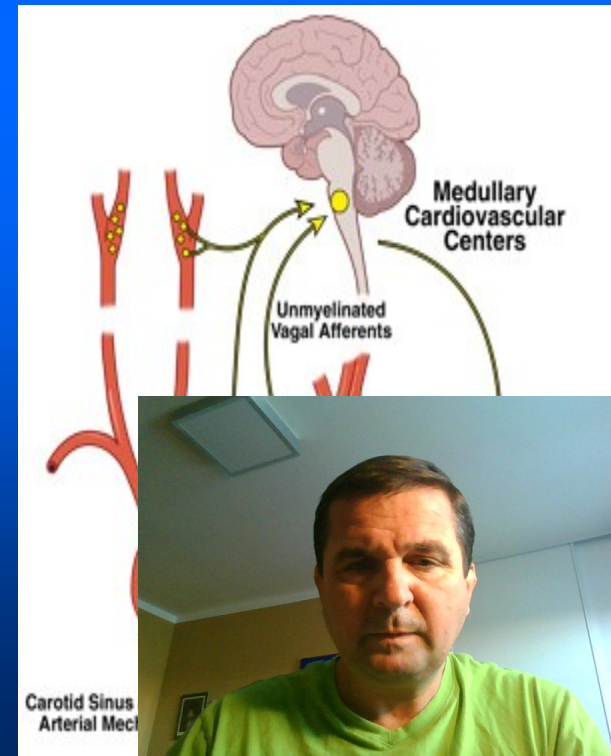
Reflex - neurovegetative

- Vasovagal
- Hypersensitive carotic sinus
- Cough, micturial, defecation, pain, brass instruments, weight lifting ...)



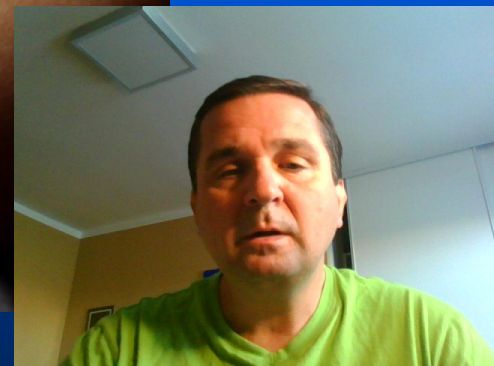
Mechanism of VVS

- pooling of the blood in LE and GIT
- decreased blood return to the RV - volumoreceptors
- sympathetic activation + hypercontraction
- mechanoreceptor irritaion
- aferentation n.IX, X, C sympathetic fibres
- centre of the reflex NTS
- eferentation - vasodilatation, bradycardia



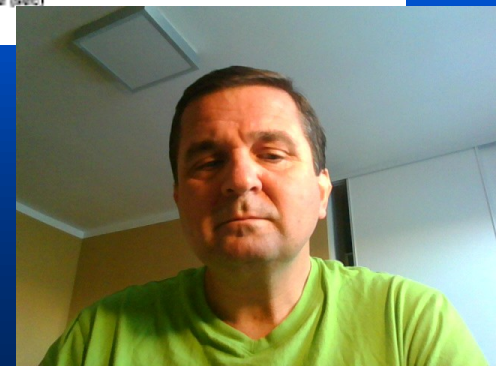
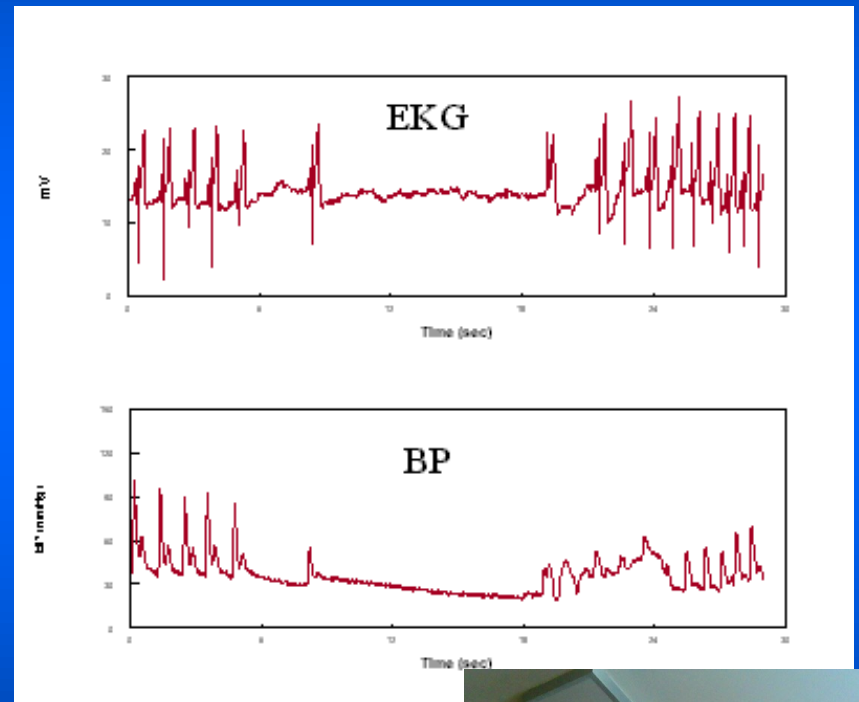
VVS

- asthenic patients
- increased dermografismus
- standing, sitting
- long standing in crowded places



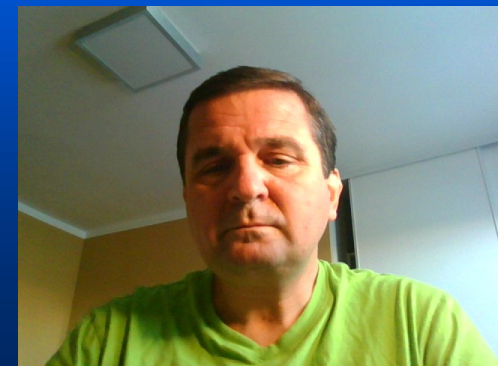
Clasification VVS

- **Type I** - mixed
- **Type II** - cardioinhibitory
- **Type III** - vasodepresoric

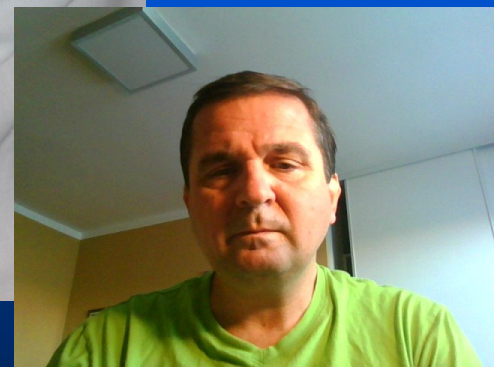


Head upright tilt test - HUT

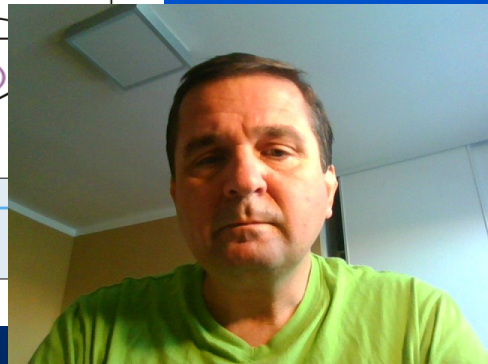
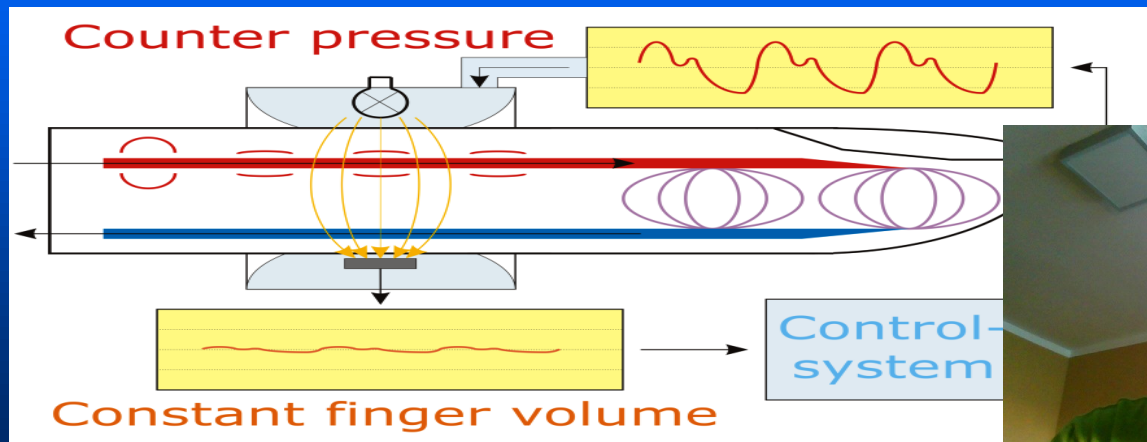
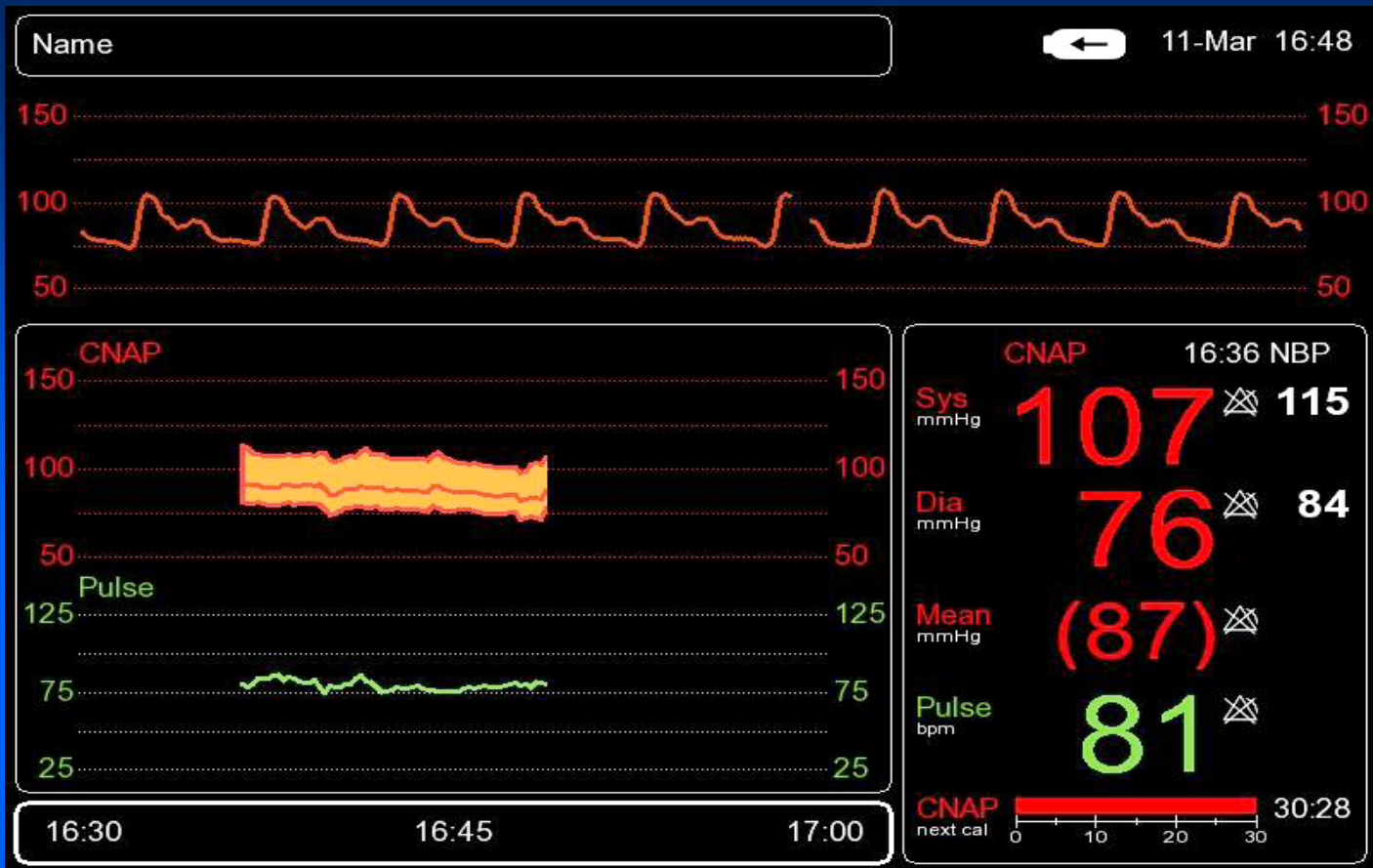
- **passive phase** - 40 min ortostasis (60st.)
- **farmacologic provocation**
- - 5 min horiz. position
isoproterenol (3microg/kg/min)
- - nitroglycerin (1/2 - 1 tbl.)
- - 20 min active ortostatic position



NIBPM

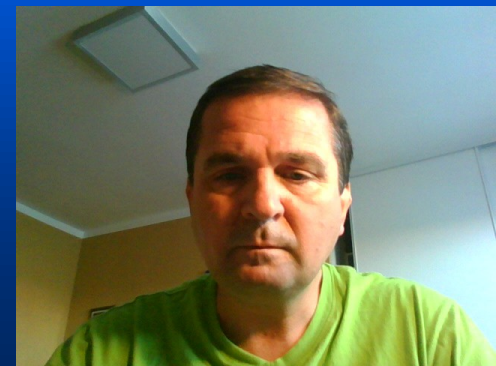






Therapy of the VVS

- regimen recommendation !!!
- beta I selective BB
- teophyllin
- verapamil
- disopyramid
- scopolamin
- cardiac pacing DDI



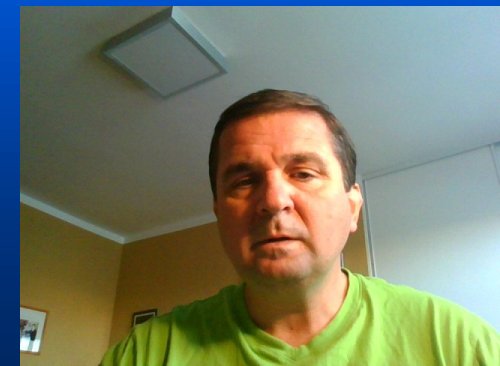
Orthostatic hypotension

- **Sympathetic dysfunction**
 - **Primary: Shy-Drager, Parkinson**
 - **Secondary: DM, amyloidosis**
 - **Postexercise**
 - **Postprandial**
- **Drug and alcohol induced (ACEI, diuretics)**
- **Volume depletion (hemorrhagia, diarrhea)**

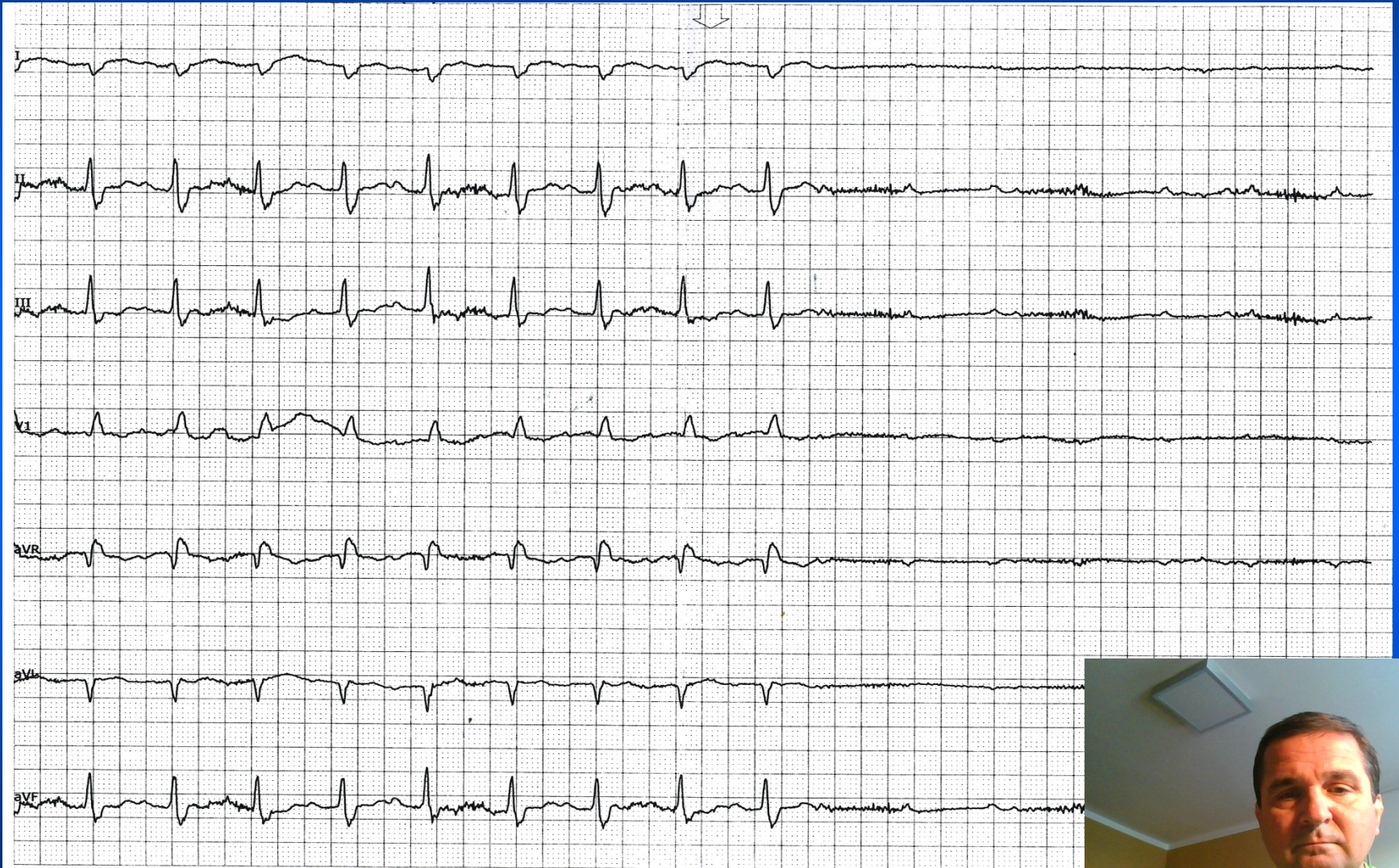


Cardiac arrhythmias

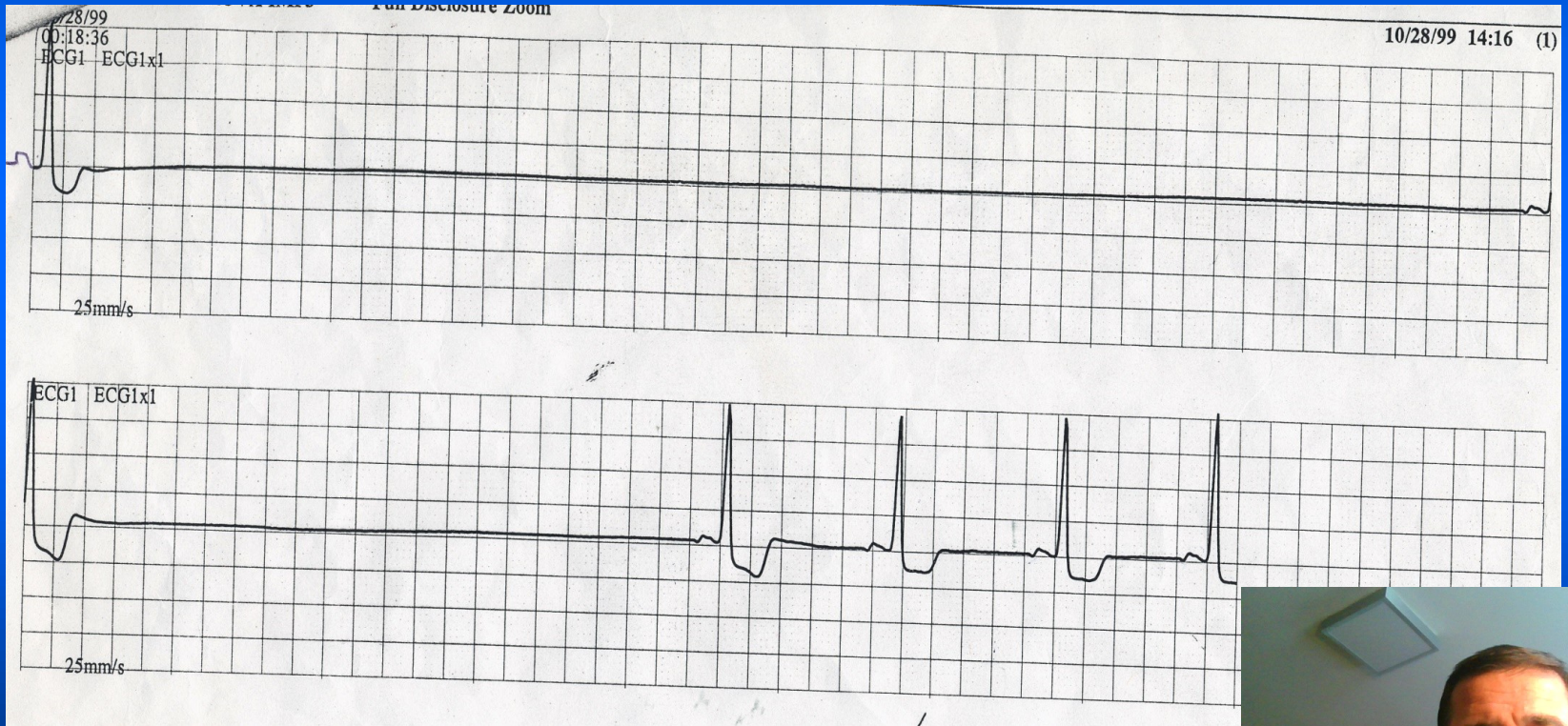
- SA node (SSSy)
- AV node (AVB II.-III.st)
- Supraventricular, ventricular tachycardias
- Genentic channel disorders (LQT, Brugada)
- Dysfunction PM, ICD
- Proarrhythmia



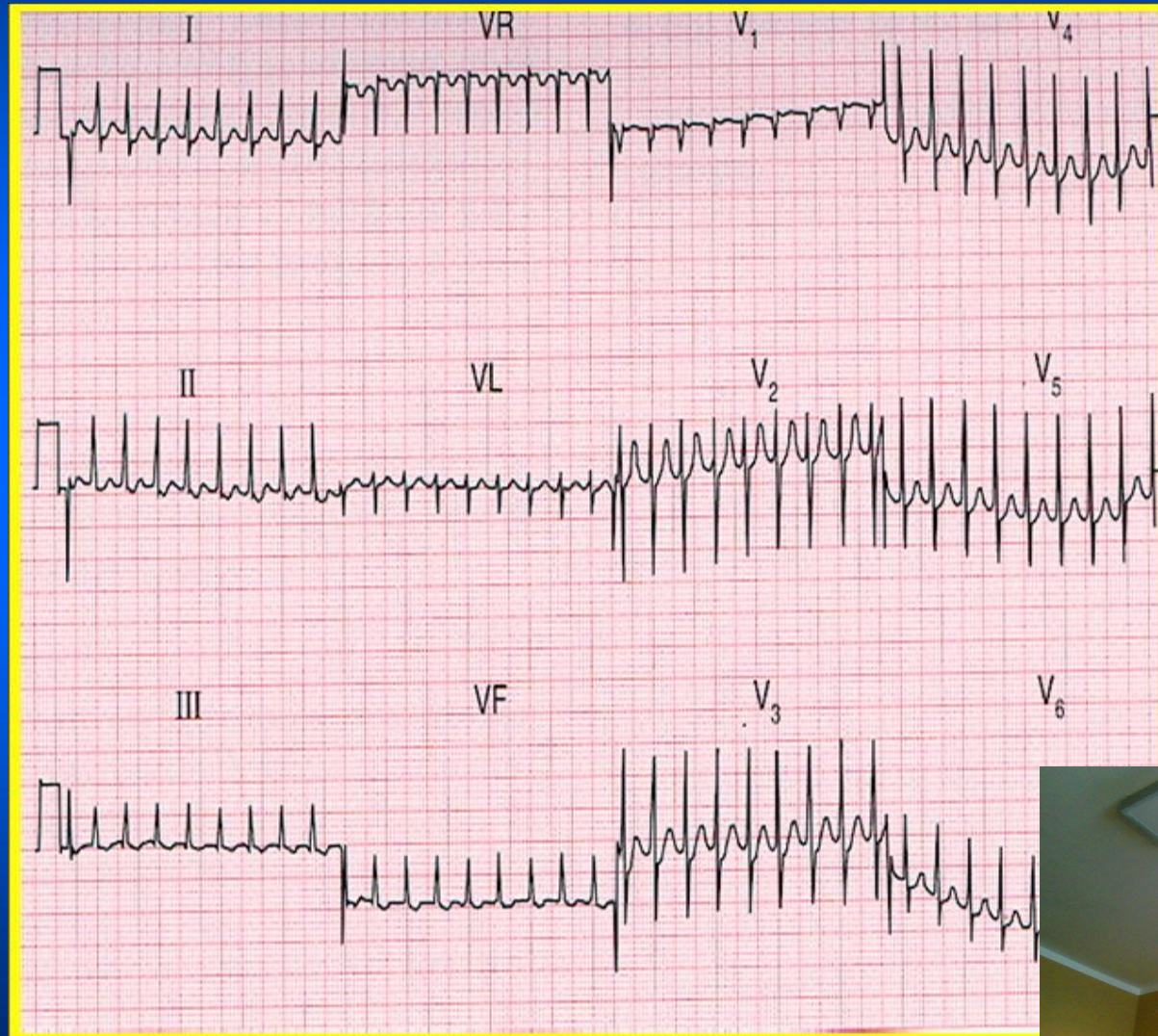
Bradycardia



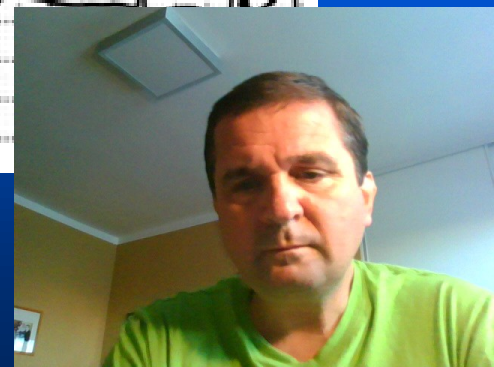
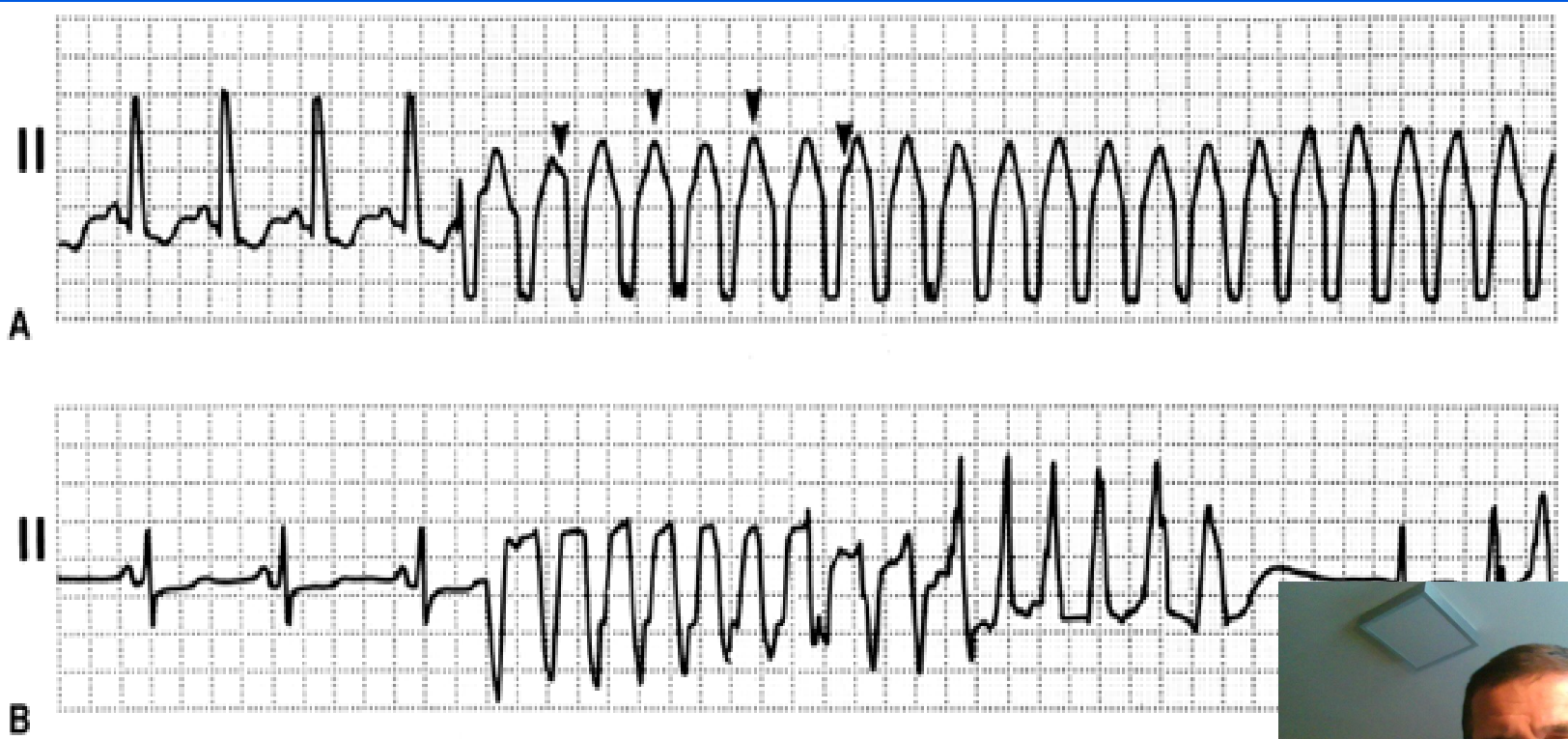
Bradycardia



SVT



NSVT



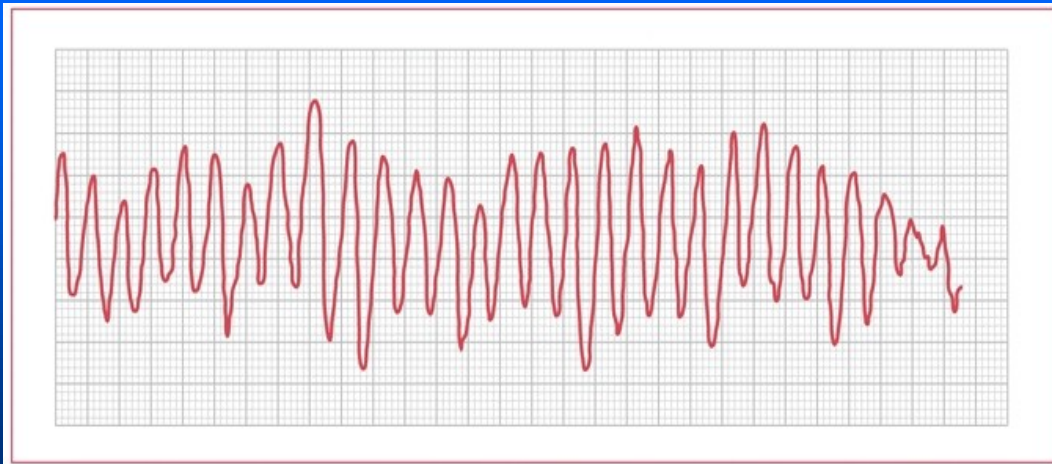
TdP - torsade de pointes

Saveurs d'Autrefois

Artisan *Spécialité* Boulanger

le Torsadé

Boulangerie-Pâtisserie • 9, rue d'Italie • Nice • Tél. 04 93 88 57 89
Ouvert de 7 h à 20 h, non stop • Fermé le mercredi et le dimanche après-midi



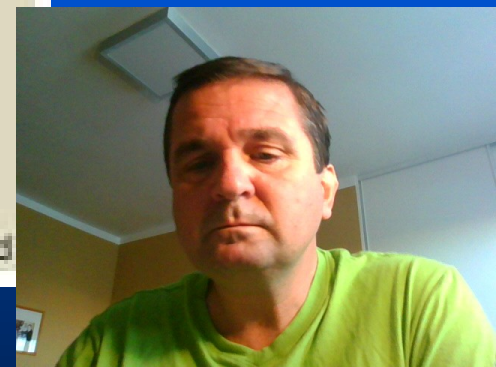
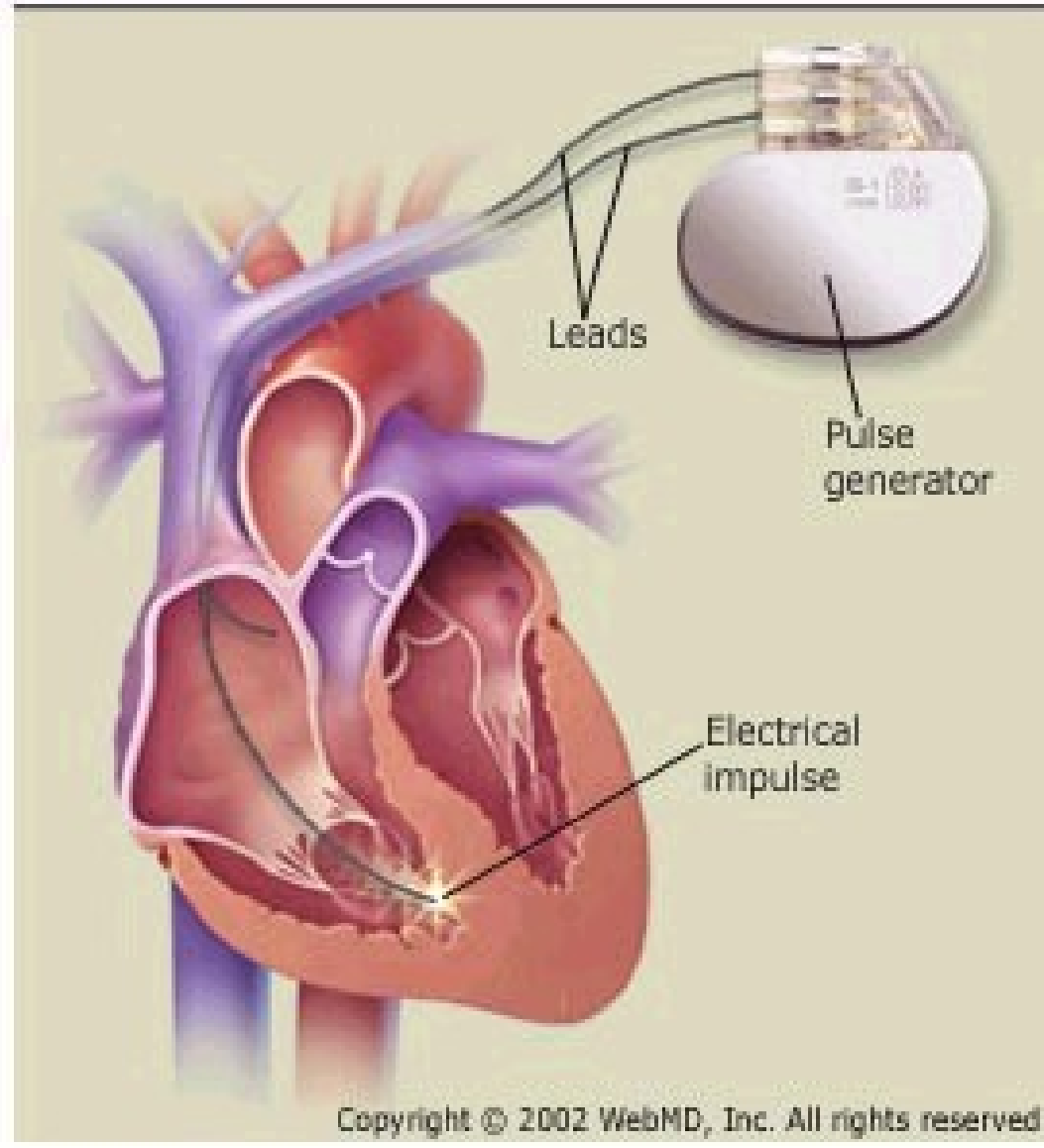
Torsades de Pointes

outline look

This block contains three ECG tracings. The top one is a standard black tracing showing a regular rhythm with a rate of approximately 100 bpm, similar to the one in the previous figure. The middle one is a green tracing with a black outline, showing a similar rhythm but with a more pronounced ST segment elevation and T wave peaking. The bottom one is a black tracing showing a similar rhythm but with a more pronounced ST segment elevation and T wave peaking. The text "outline look" is written in black with an arrow pointing to the green tracing.



Pacemaker

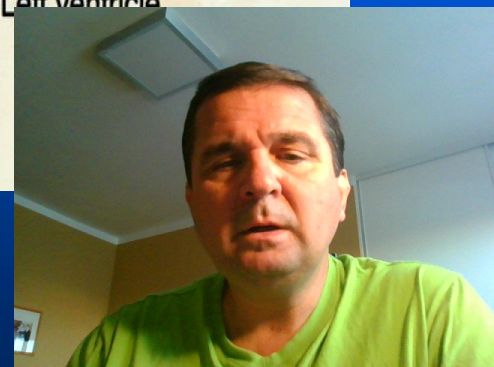
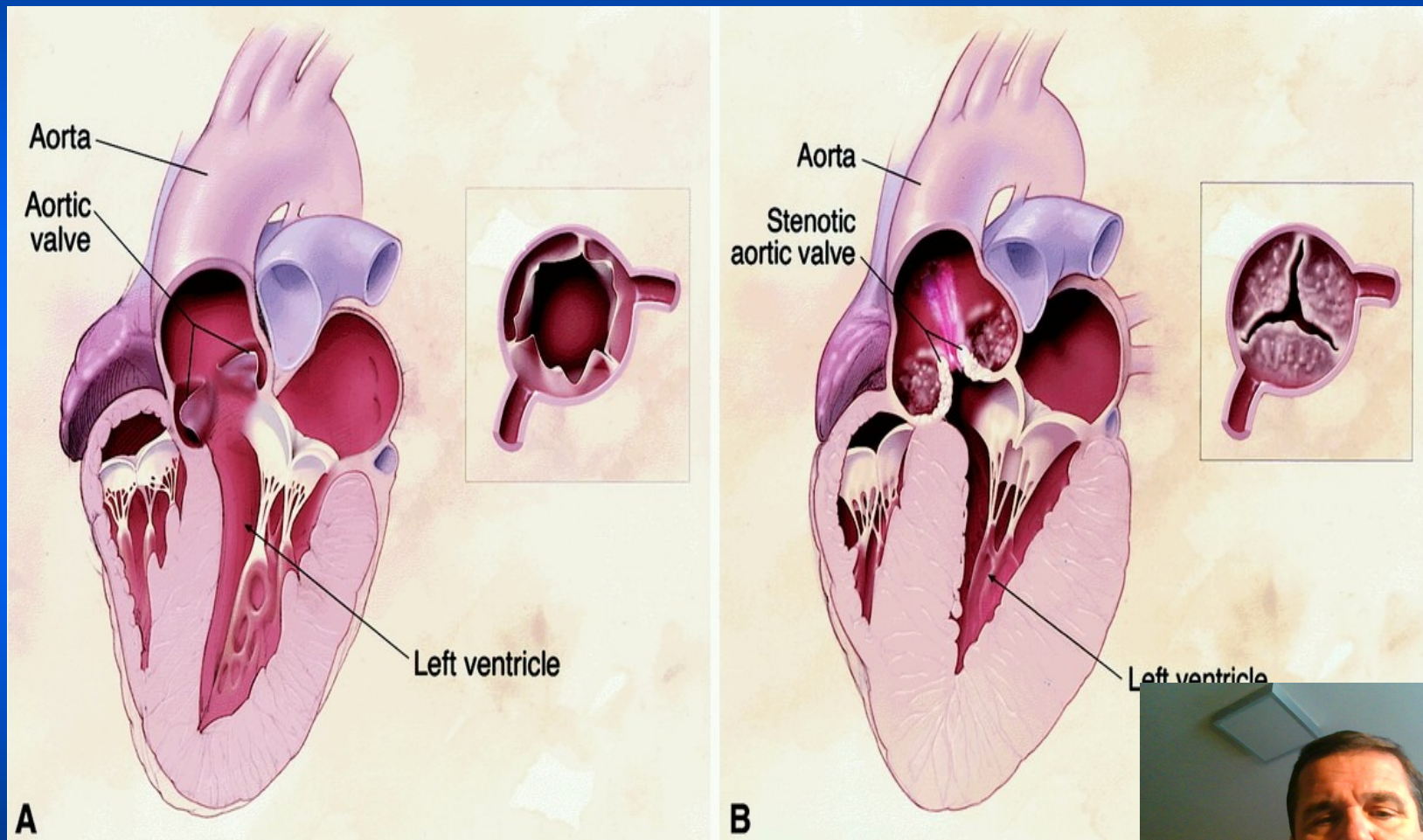


Structural heart disease

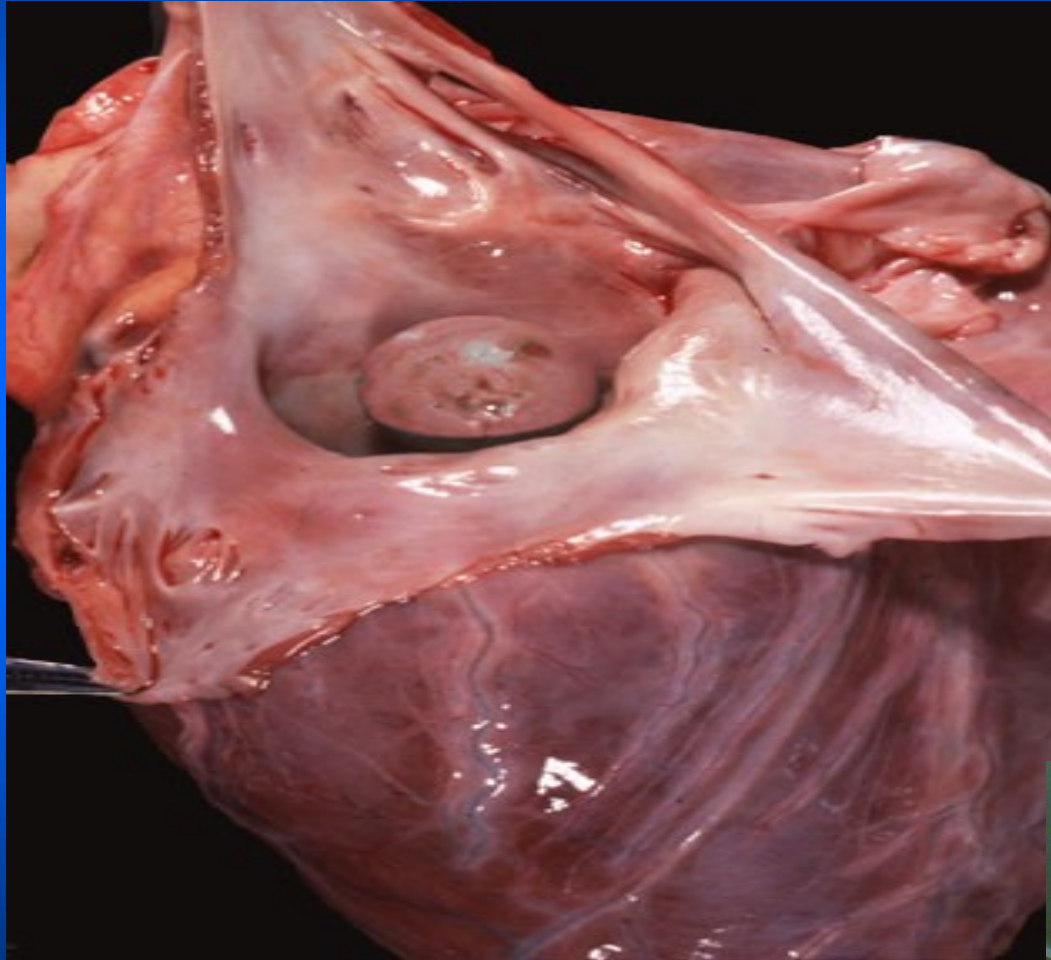
- Valvular disease
- HOCMP
- Atrial myxoma
- *Acute aortic dissection*
- *Pericardial tamponade*
- *Pulmonary embolism*



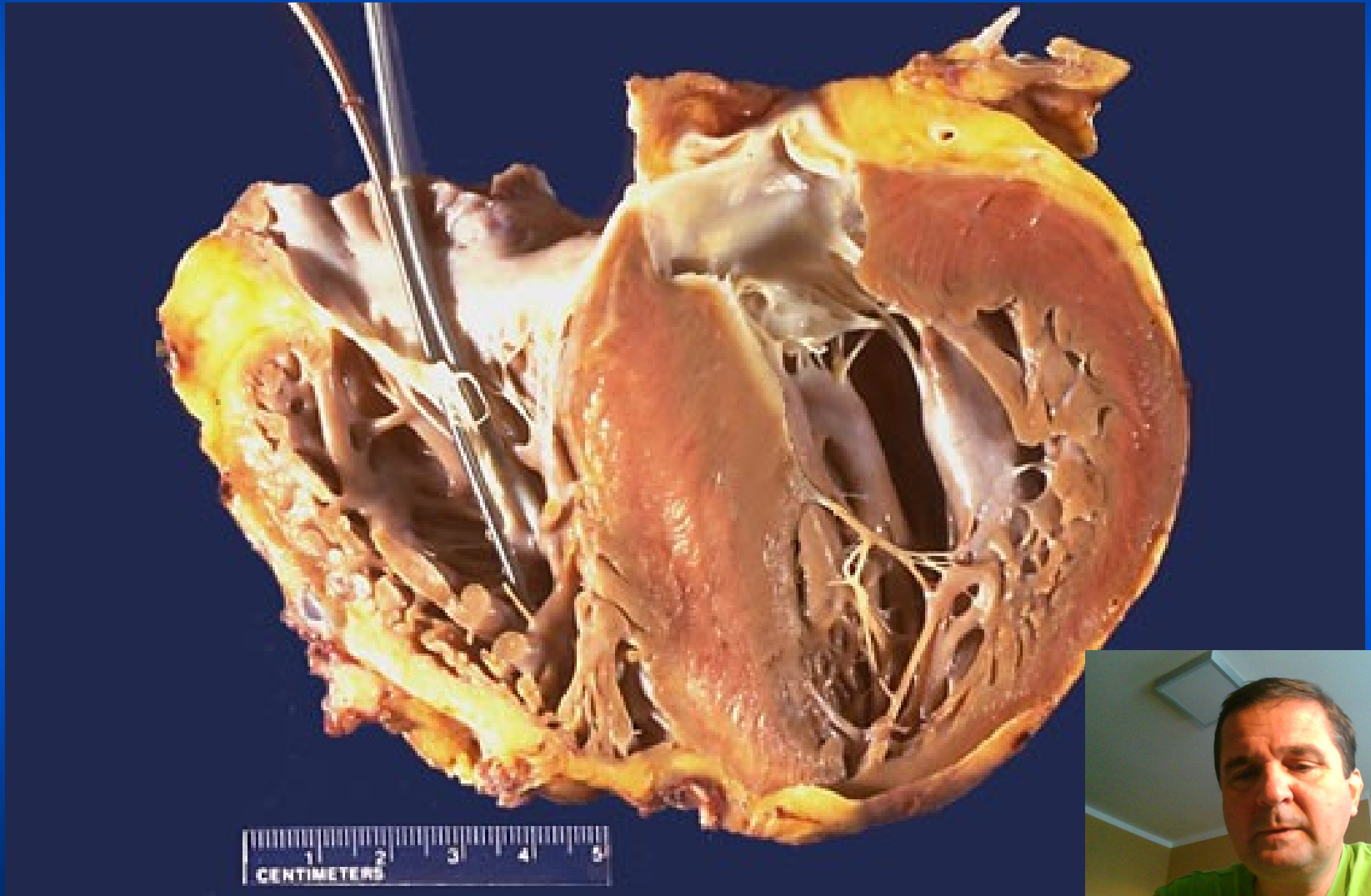
Ao stenosis



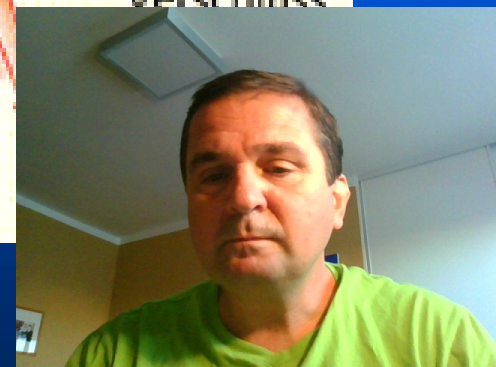
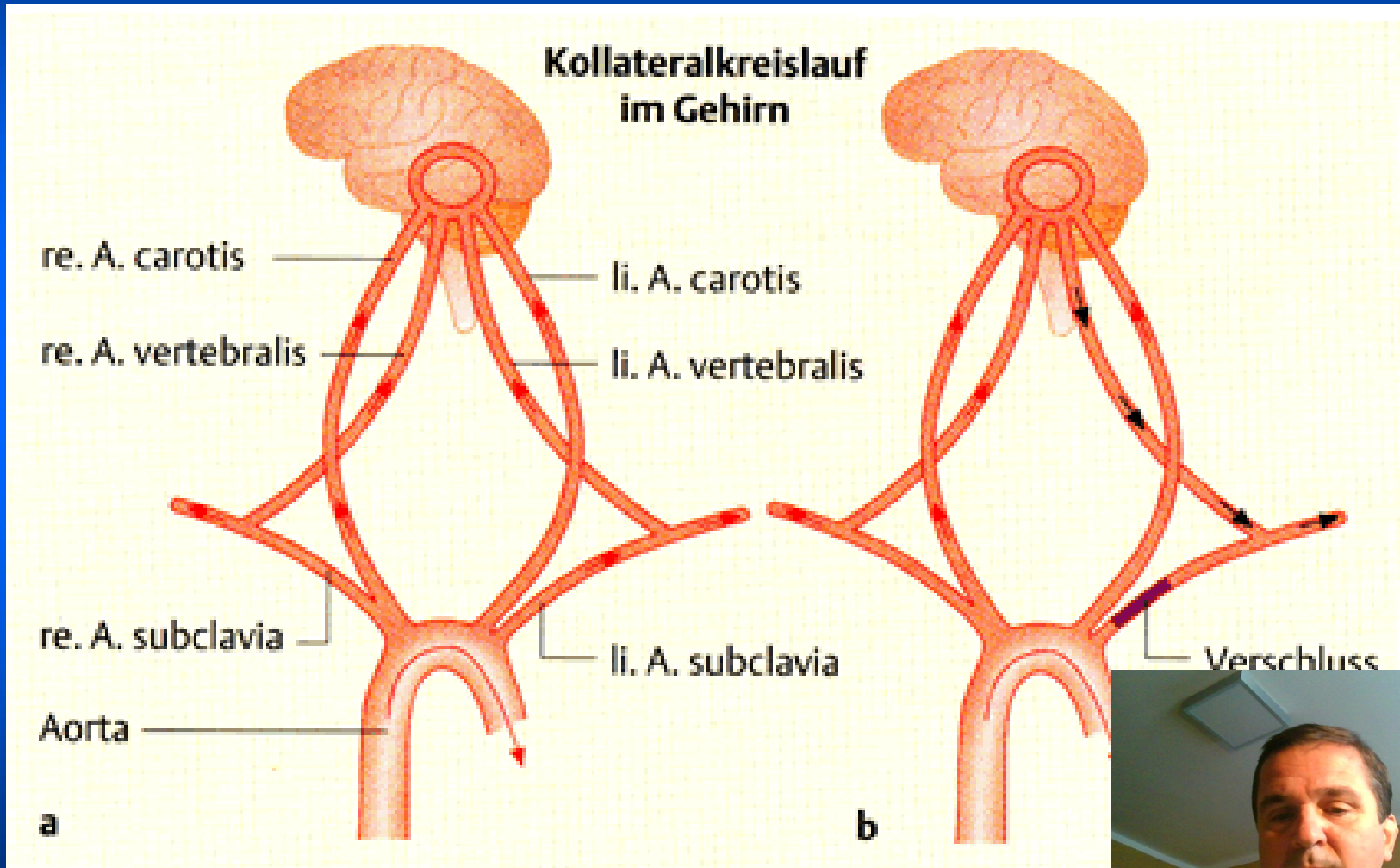
Myxoma



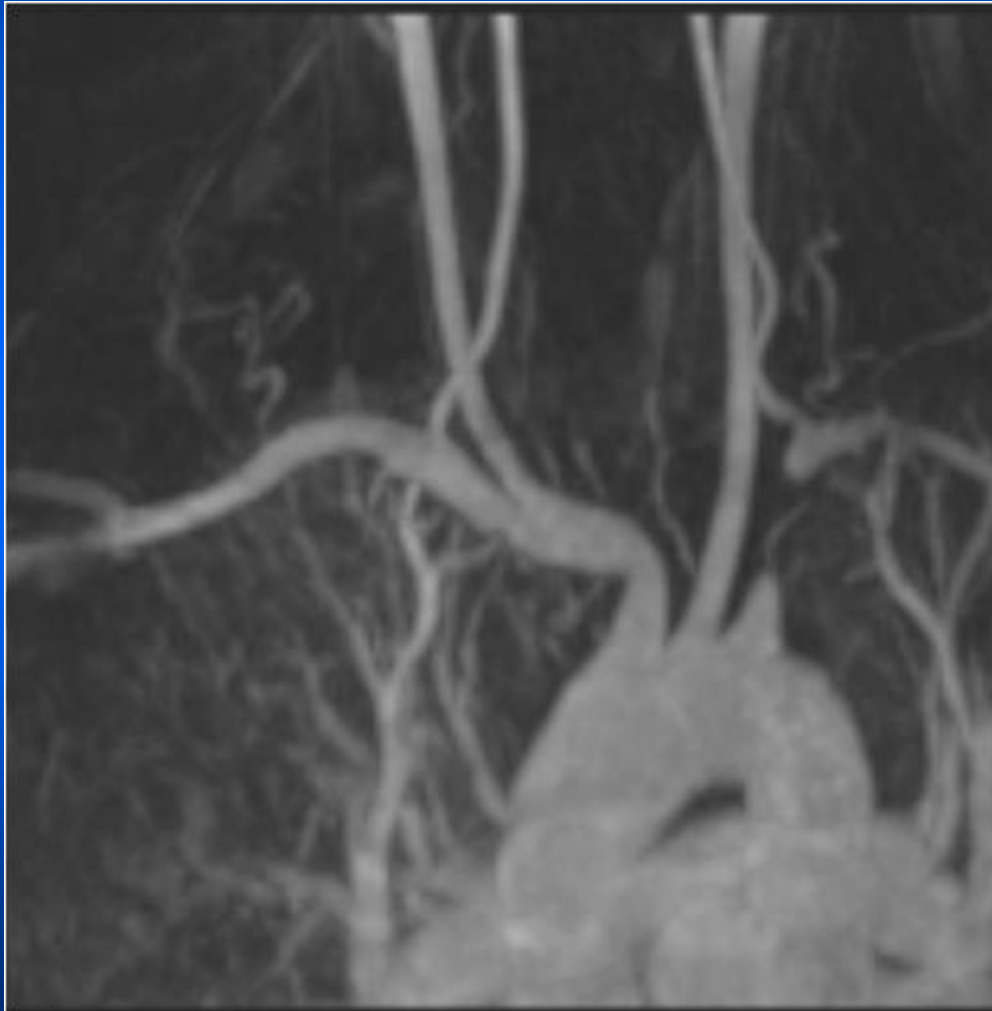
HOCMP



Cerebrovascular – steal phenomenon

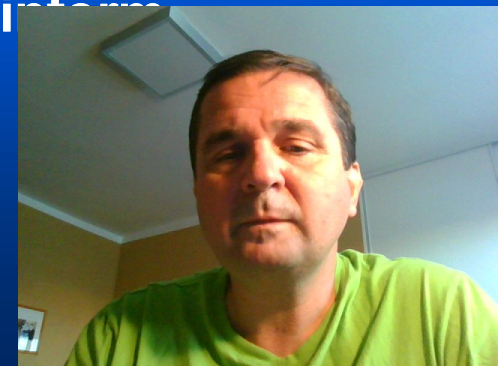


Cerebrovascular – steal phenomenon



Investigation of syncope

- History + physical examination
- ECG, OT test, Carrotic sinus massage, Holter, ECHO, EEG, US carotic art.
- HUT test, EP study, prolonged monitoring, psychiatric examination
- Single syncope of unknown etiology:
- Stop further investigation in the right time and inform patient



Recurrent syncope of unknown etiology

- Indication for an ILR (Implantable Loop Recorder) implantation

