και η ΜΑΓΝΗΤΙΚΗ ΤΟΜΟΓΡΑΦΙΑ σε αρρυθμιολογικά περιστατικά

Το «ΔΙΚΙΟ»
του
ΗΚΓφήματος

ΕΦΗ Ι. ΠΡΑΠΠΑ
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EVAGELISMOS GENERAL HOSPITAL
Cardiomyopathy Clinic
Male, 55 years old
pre-surgical evaluation
for choleystectomy

- asymptomatic
- smoker, dyslipidemia
- clinical examination normal
- blood tests normal
  (CPK, TnT, dDimers, proBNP)

ECG abnormal...
no changes to previous one
WHAT IS THE POSSIBLE DIAGNOSIS, so far:

1. Non-STEMI
2. Acute ischemia
3. Dilated cardiomyopathy
4. LV hypertrophy / HCM
5. Pulmonary embolism
Questions to the audience (1)

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CORONARY ANGIOGRAPHY: normal

Referral to Cardiomyopathy Clinic for further evaluation....
WHAT IS THE FOLLOWING EXAMINATION?:

1. Cardiac MRI
2. Cardiac CT
3. Left ventriculography
4. Contrast echocardiography
5. Transesophageal echocardiography (TEE)
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MANAGEMENT

- no medication
- SD risk stratification low (Holter, stress test...)
- 1st degree relatives screening... (nephew)
**the nephew !!!**
Apical HCM

Specific variant of HCM, LVH mainly confined to LV apex.

First described in Japan, 1976
- Sakamoto et. al. “Asymmetrical apical hypertrophy of the left ventricle” in Japanese males
- 18-25% HCM Japanese people
- 3-10% worldwide

To date, no consistent genotype-phenotype correlation has been established. Most of the reports underscore the heterogeneity of the clinical disease expression within the same sarcomere protein gene
- β-myosin heavy chain (MYH7)
- myosin-binding protein C (MYBPC3)
- myosin essential light chains (MYL2)
- troponin I (TNN3)
- troponin T (TNNT2)
- cardiac actin (ACCT)
- multiple mutations
Apical HCM

**DIAGNOSTIC CRITERIA**

**HCM**: Presence of otherwise unexplained LVH ≥ 15mm. In borderline cases (LVH between 13-15mm), concomitant ECG changes are required to establish the diagnosis.

**AHCM**: LVH predominantly confined to the LV apex. maxWT within the apical segments and absence of significant hypertrophy at the base.

**Short axis (SAX) measurements**

- **“Pure” apical form**
  - LVH limited to apical segments

- **Distal dominant” form**
  - LVH extending mid ventricular level clearly sparing the basal segments
Apical HCM

ECG is of great importance in AHCM.

“Giant” negative T waves that can be labile and even disappear during long-term follow-up

voltage of negative T wave $\geq 1\text{mV} \ (\geq 10\text{mm})$ in any of the leads
Apical HCM

ECHOCARDIOGRAPHY

AHCM is often first detected by transthoracic echocardiography, when the degree of suspicion is high and proper imaging techniques are employed:
- carefully aligned (non-foreshortened) apical images
- apical short axis view (SAX) or various 3D cut planes
- apical color doppler
- high frequency transducer settings
- use of iv echo contrast agents when apex is not clearly identified
“In pts with abnormal ECG without an explained cause, routine ECHO without contrast may not exclude apical HCM. Definite exclusion of this important diagnosis requires further imaging such as CMR or contrast ECHO.”

Mc Kenna. Heart 2004
Abnormal ECG...
TAKE HOME MESSAGE

PROVE the ECG RIGHT !
Ευχαριστώ

για την προσοχή σας...