The Beat Goes on . . . Usually
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Summary

• Atherosclerosis starts in middle school & has been with us since antiquity
• Medical therapy as good as stents for angina
• Vytorin is OK
• Palpitations are almost always benign

• Atherosclerosis in Children and Young Adults
• You’re Older than You Think
• The Prevalence of Fibrous-Plaque Lesions in the Aorta and Coronary Arteries in 204 Children and Young Adults, According to Age.
• Prevalence of CAD by Age
• Intracoronary US: 17 & 32 y/o
• Risk Factors For CAD in Adolescence & Young Adults
• Cigarette smoking
• DM
• Hyperlipidemia
• HTN
• Truncal obesity
• Family history
• Inactivity
• Kawasaki’s disease, transplant, CKD, inflammation

*Plaques Can Start in 7th Grade!

*Why Are Our Children Getting CVD?
*Beaten, Mindless Herds Staring at Computer Screens

Atherosclerosis in Antiquity

• Atherosclerosis in Mummies
• Atherosclerosis in Animals (Other than Human)
  • Monkeys, baboons
  • Deer
  • Dogs
  • Turkeys
• Rabbits
• Birds - Maca, pigeons

Primary Care Management of Patients with Intracoronary Stents
• Medical Therapy vs. Stents for CAD
• Stents clearly beneficial in STEMI & acute coronary syndromes
• Stents not so beneficial in stable CAD

• COURAGE Trial:
  Medical Therapy vs. PCI for Stable CAD

Drug Eluting Stents Don’t Endothelialize
Management After Stents
• Do not stop Plavix & ASA for at least 1 year after drug eluting stent
• Chest pain common for a few weeks
• Control Risk factors
• LDL < 70 - 80
• Routine F/U or stress testing not required

Outpatient Care after MI
• Mediterranean diet & exercise
• Aggressive control RF’s
  – LDL < 70
  – BP 130/80
• ASA 325 mg daily (post stent) 162 mg thereafter
• Plavix 75 mg daily (post stent)
• Statin
• B-blocker
• ACE inhibitor or ARB
• Spironolactone if EF < 40%
• Warfarin for Anterior MI with CHF or AF

Outpatient Care after MI: Follow Up
• Minimal F/U for uncomplicated MI
• Target risk factors & compliance
• Address depression / anxiety
• Complicated MI to cardiology
  – CHF
  – Arrhythmias
  – Multivessel CAD
What’s a Myocardial Infarction?

• Elevation of Troponin I
  — Above 3 SD’s of normal, rise & fall
  — TnI > 0.5 – 1.0

• Symptoms

• ECG
  — ST elevations or depressions
  — New LBBB
  — Q-waves

ENHANCE TRIAL: Background

• ENHANCE cIMT Methodology
  Carotid Intima-Media thickness (cIMT) measurements

• Mean cIMT during 24 months of therapy
  Longitudinal, repeated measures analysis

• Possible explanations for the absence of an incremental reduction in cIMT

ENHANCE in Perspective

• Vytorin is safe & effectively lowers LDL
• Small population w/ very high LDL followed for only 2 years
• Surrogate endpoint (CIMT) used
• Clinical outcomes and adverse events similar
• News media & competitors made alarmist statements
• Is it the statin or the low LDL?

Evaluation & Management of the Patient with Palpitations

Causes of Palpitations

Nonspecific Complaint

• Cardiac – arrhythmia, structural heart ds.
  — Alteration in rate, rhythm or stroke volume
• Psychiatric – panic, anxiety
• Stimulants - caffeine, drugs
• Metabolic disorders – thyrotoxicosis
• High output states – anemia, pregnancy

Clues by History

• Brief, Flip-flop, skipped beats – PVC’s
• Sudden off/on, prolonged – SVT or VT
• Anxiety – regular rate, gradual onset
• Irregular – AF
• Near syncope – VT, SVT
• Younger – SVT’s
• Older – AF, VT

Factors Predictive of Cardiac Cause
• Male
• Described as irregular heart beat
• H/O heart disease
• Lasts more than 5 minutes

Prevalence of Palpitations & Arrhythmias
• Palpitations occur in up to 12% of elderly population
• Extrasystoles extremely common in patients referred for Holter monitor
• Correlation of extrasystoles or other brief arrhythmia with symptoms is poor

Outcomes of Patients with Palpitations
• About the same risk as age & sex matched controls
• Extremely low risk of death or stroke
• Malignant arrhythmias (VT) very unlikely
• Many patients remain symptomatic & anxious

Arrhythmias Causing Palpitations
• Extrasystoles - PVC’s, PAC’s
• PSVT
• PAT / PAF / Flutter
• VT
• Structural heart disease, CHF?
• Prior MI, Ischemia?

Evaluation of Palpitations
• PE
  – HOCM
  – Valve disease
  – CHF

• ECG
  – Old MI
  – LVH
  – QT Interval
  – WPW

Patients Who Require Further Evaluation
• Significant symptoms, syncope, near syncope, prolonged arrhythmia
• Suspect structural or ischemic heart disease
• Patients who can't be reassured
Holter or Event Recorder?
• Event recorder best
  — Patient activated event recorder for 2 weeks has a much higher diagnostic yield than Holter for 24 hours
  — 80% for ER vs. 35% for Holter

Exclude Structural Heart Disease
• Stress Echo
  — Evaluate LV function & chamber sizes
  — R/O CAD

Management of Palpitations
• Reassurance & avoidance of precipitating factors
• Extrasystoles
  — B-blocker?
• Arrhythmia Specific therapy
  — PAF
  — PSVT
  — VT

Arrhythmias During Pregnancy
• Sinus tach common
• Higher rate of extrasystoles
• Atenolol should be avoided (IUGR)
• Verapamil, digoxin, quinidine, procainamide, flecainide, sotalol appear safe

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