Update in Cardiology for the Primary Care Provider

Ryan Garbalosa DO, FACC
6/13/2019

Conflict of interest disclosure

I have no conflicts and nothing to disclose

Blood Pressure Guidelines

- Recent change 11/13/2017
- Half of the world is now hypertensive
- New goal is <130/80 for everyone
- No clinical CVD and 10 year ASCVD risk score <10% slightly different
- Confirm diagnosis at home
New Research

- British Medical Journal 10/24/2018
- ACE inhibitors compared to ARB
- 992,061 patients over 20 years
- No risk < 5 years
- 31% increased risk of lung CA at 10 years
- Not to be confused with ARB NDEA contamination recalls

Treatment options

- Diet and exercise (of course)
- Not all antihypertensive agents are created equal
- First line options
  - Tailor to comorbidities
  - Beta blockers not first line
- ACE inhibitors?
- Chlorthalidone vs Hydrochlorothiazide
- Be aware of resistant hypertension

NSAIDS

- ALL may increase blood pressure
- ALL may increase risk of heart attack and stroke
- Use alternatives if possible
  - Acetaminophen
  - Tramadol?
  - Not opiates (obviously)
- Celecoxib and aortic stenosis
2018 Hyperlipidemia Guidelines

• Similar to previous with worse infographics
• LDL mainstay of treatment
• Essentially 3 usable medication classes
• Basic treatment algorithm unchanged

Cholesterol Treatment Algorithm

• STEP 1: Clinical ASCVD?
  • History of ACS, revascularization, CVA/TIA, PAD, aortic aneurysm
PCSK9 Outcome data

- FOURIER 2017
  - evolocumab
  - 1.5% absolute reduction in MACE

- ODYSSEY 2018
  - alirocumab
  - 1.6% absolute reduction in MACE
  - Subset analysis 1.7% ARR mortality

Cholesterol Treatment Algorithm

- STEP 1: Clinical ASCVD?
  - History of ACS, revascularization, CVA/TIA, PAD, aortic aneurysm

- STEP 2: LDL > 190?
  - Familial hyperlipidemia
CHOLESTEROL TREATMENT ALGORITHM

- **STEP 1: Clinical ASCVD**
  - History of ACS, revascularization, CVA/TIA, PAD, aortic aneurysm
- **STEP 2: LDL > 190?**
  - Familial hyperlipidemia
- **STEP 3: Diabetes Mellitus (I and II)?**
  - Age 40-75
  - Moderate intensity
- **STEP 4: Calculate ASCVD risk score**
Goals of Therapy

- Clinical ASCVD
- LDL < 70
- Familial Hyperlipidemia
  - LDL < 100
- Diabetes Mellitus (I and II)
  - LDL reduction < 50%
- Elevated ASCVD risk score
  - LDL reduction < 30% (or < 50%) for higher risk
  - No guidance on non-statin therapy
- Statin tolerance?

Triglycerides?

- < 500 – Low fat Diet, weight loss, treat underlying conditions
  - Liver and kidney disease, Diabetes mellitus, Thyroid disease
  - Medications
    - Oral estrogen, tamoxifen, atypical antipsychotics, beta blockers, steroids, protease inhibitors, ciclosporine, immunosuppressants
  - If ASCVD score is > 7.5% add statin
- > 500 – consider omega 3 or fenofibrate
- Never use gemfibrozil

Fishing for Answers

- VITAL trial 2019
  - 1000mg Fish Oil or 2000 IU vitamin D3
  - No benefit primary prevention
- ASCEND trial 2018
  - 1000mg fish oil in patients with Type II DM
  - No benefit primary prevention
- 2018 Meta analysis (JAMA)
  - 77,917 patients
  - No benefit in CVD events
Fishing for Answers

- REDUCE-IT trial 2019
- 4000mg icosapent ethyl in patients with ASCVD or DM on statin
- Reduction in CV events and mortality
- Atrial fibrillation?
- Placebo problem?
- Data extrapolation?

New Atrial Fibrillation guidelines

- 2019
- Non Valvular Afib further defined
  - Mod Severe Mitral Stenosis or Mechanical Valve (Any)
- DOAC preferred OVER warfarin (Class Ia)
- Apsirin – GONE!
- Apixaban only for ESRD

CHADS$_2$-VA$_2$Sc Revisited

- Risk of being a woman
  - Does not factor into anticoagulation
- Score of 0 (Men) or 1 (Women)
  - Anticoagulation may be omitted (Class IIa)
- Score of 1 (Men) or 2 (Women)
  - Anticoagulation may be considered (Class IIb)
- Score of 2 (Men) or 3 (Women)
  - Anticoagulation strongly recommended (Class Ia)
- NO ASPIRIN
Alternative to anticoagulation?

- Does not exist yet
- Pulmonary vein isolation
  - CVA risk even without atrial fibrillation?
  - Atrial fibrillation
- Left atrial appendage closure
  - 2017 PREVAIL trial, failure to meet non-inferiority to warfarin at 18 months
- IVC filters short term only

Cardioversion Review

- Guideline language and “48 hour rule”
  - IIA – start anticoagulation prior to CV with CHADS 2(3)
  - IIB – consider anticoagulation versus nothing with CHADS 0(1)
- “Safe” Cardioversion
  - 3 weeks anticoagulation
  - TEE to rule out thrombus
- Post cardioversion anticoagulation
  - 4 months (atrial stunning)

Updates in Anticoagulation

- Improper dosage
  - Right and wrong dose!
  - Varies by indication
  - Particularly apixaban
- Reversal Agents
  - Idarucizumab
  - Andexanet alfa
Empiric Stroke Prevention

• NAVIGATE-ESUS (2018)
  • Rivaroxaban 15mg daily

• RE-SPECT ESUS (2019)
  • Dabigatran 150mg or 110mg twice daily
  • Both no benefit over aspirin

Triple Therapy

• Dual antiplatelet therapy with anticoagulation after PCI
• Multiple trials with warfarin and direct oral anticoagulants
• Aspirin can be discontinued
• Clopidogrel studied with DOACs

Warfarin still needed

• Valvular atrial fibrillation
• Mechanical valves
  • INR differences for aortic position without risk factors
  • Only applies to newer valves
  • New On-X valve
• Aspirin 81mg recommended
Aspirin for primary prevention?

• ARRIVE 2018
  • ~12,000 patients, No ASCVD or DM2
  • 10 year risk score 10-20% (17.3%)
  • Observed events 9%
  • No benefit, increased bleeding risk

• ASCEND 2018
  • 15,480 patients, DM2 with A1C < 8%
  • ~1% less events and ~1% more bleeds
  • 2019 Meta analysis – 164,225 patients
    • Event reduction same as bleeds

Aspirin for primary prevention?

• Current Guideline 2019
  • Aspirin 75-100mg
  • Adults 40-70
  • ASCVD risk > 10%
  • No increased bleeding risk
  • IIb-A recommendation

SGLT-2 Inhibitors

• Newer class of DM2 medication
  • empagliflozin, canagliflozin, dapagliflozin

• Decreased CV mortality and CHF hospitalization
  • Mechanism unclear, BP?, diuresis?

• Second line therapy if affordable

• Early safety concerns
  • Increased risk or toe/foot amputation with canagliflozin
  • Volume depletion
  • Genital mycotic infections
Interesting tidbits

• Ticagrelor is bactericidal? (JAMA 2019)
• Effective against gram positive only
• Superior to vancomycin
• Very high concentration
• Not seen with Prasugrel control

Questions?

References

References


References


• Kawano, Tomohiro, et al. “Therapeutic Vaccine Against S100A9 (S100 Calcium-Binding Protein A9) Inhibits Thrombosis Without Increasing the Risk of Bleeding in Ischemic Stroke in Mice.” Hypertension 72.6 (2018): 1355-1364.


