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11th HHT Conference

Clinical Summary

Outline

New lessons about clinical aspects of HHT

Controversies in Pediatrics

Advances in diagnostics

Advances in procedural care

New therapies in HHT?

Lessons in clinical HHT

- Kjeldsen
 - Survival HHT not different from gen pop; possible lower cancer rates; VTE no evidence difference
- Hosman
 - Controlled survey suggesting less lung cancer and more breast cancer in HHT patients

New lessons: clinical HHT

- Shovlin
 - Nosebleeds and migraines can have similar triggers: EtOH, lack of food, stress, exercise, cheese chocolate
⇒ Education
- Shovlin
 - Iron deficiency is a predictor for stroke, in PAVM patients. Secondary platelet activation.

New lessons: Clinical HHT

- Geisthoff
 - Some HHT patients present very late..as late as in their 80s with clinical symptoms
- McDonald
 - 25% of adults have telangiectasia, 33% have epistaxis more than 1/yr

New lessons: Clinical HHT

- Vorselaars
 - PH associated with ALK1 and liver VMs. PH without liver VMs associated with ALK1 (not endoglin).
- Zessler
 - CVMs more frequent than gen pop: specifically brain AVMs, DVA and hemosiderin deposits
- Serra
 - Manganese deposition in basal ganglia in 30%; associated with iron-deficiency anemia and liver VMs; some neuropsych changes

Controversies in Peds

- Ibrahim
 - PAVM related complex 3% occurred in those with sat < 93%; CAVM related complex in 2%
- White
 - Symptoms don't predict PAVMs or low saturation in children
- Crawford
 - Persistence of PAVMs in 70% of embolized PAVMs; majority collateral reperfusion

Advances in Diagnostics

- McDonald
 - Genetic testing (ENG-ACVRL1, SMAD4) is 96% sensitive in HHT probands
- Harrison
 - BNP measurement (>100pg/ml) has high sensitivity (90%) and Spec (84%) with very high NPV for high-output heart failure..symptomatic
- McWilliams
 - Proposed CT score system for Liver VMs: hepatic artery diameter and diffuse vs focal VMs...correlated to adverse outcomes

Advances in Diagnostics: Contrast echo

- Parra
- Manfredi
- Jyothidasan
- Gelofusine contrast: No advantage over agitated saline for contrast echo
- Contrast echo is safe; can cause migraine
- Ramping up pattern helps (a little) differentiate between PAVMs and PFO

Advances in Diagnostics: PAVM rescreen

- Latino
 - Rescreening adults for PAVMs, after initial negative screen, reveals no significant PAVMs at 5yrs (and 2% non-significant)
- Vorselaars
 - For same group: No treatable PAVms at 5 yr rescreen.

Controversies: PAVMs

- Diederik
- Reperfusion more common in complex PAVMs...consider embolizing the sac/vein?

New therapies for HHT?

- Botella
- Faughnan
- Meek
- Gossage
- Bazedoxifene: case series
- Pazopanib: trial underway
- Doxycycline: case series
- NOSE trial: No clear benefit of topical bevacizumab, topical tranexamic acid, over nasal saline. Estriol not beneficial.

New therapies for HHT?

- Mei-Zahav
- Dupuis-Girod
- Shovlin
- Intranasal topical propanolol for epistaxis: case series
- Intranasal bevacizumab spray: protocol
- Idea: Serotonin antagonist?

New therapies for HHT

- Iyer
 - IV bevacizumab for severe HHT bleeding: case series
- Arizmendez
 - IV beva may reduced epistaxis; need more studies
- Dupuis-Girod
 - IV beva for severe bleeding: protocol

Advances in procedural therapies

- Picirillo
 - Sodium Tetradecyl Sulfate Sclerotherapy for epistaxis: large case experience
- Wilson
 - 2-flap Young's procedure for severe epistaxis: case series, all improved
- Whitehouse
 - Septal dermoplasty using a porcine graft: case series, short-term good results

Insights and Opportunities from the Outside World

- Gomberg-Maitland
- Research registries and biobanks....Sustainability is key and also long-term re-contact potential
- Guttmacher
- The placenta: a model for studying vascular development...for HHT?

Clinical practice

- Trerotola
- Variability in clinical practice among HHT clinicians and radiologists

Homework for Us

- Maybe rethink some of our clinical practice
- Design protocols to study promising therapies
- More collaboration, in larger groups