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Review and commentary of key non-JVS-VL articles

There go my favorite television shows

TV Viewing and Incident Venous Thromboembolism: The Atherosclerotic Risk in Communities Study

Kubota Y, Cushman M, Zakai N, Rosamond WD, Folsom AR. J Thromb Thrombolysis 2018;45:353-9.

Conclusions: Increased number of hours spent watching television (TV) was independently associated with an increased risk of venous thromboembolism despite exercise level or patient's body weight.

Summary: TV viewing is the most common sedentary behavior around the world. Data collected in the Atherosclerosis Risk in Communities Study, 1987 to 1989, included information on the frequency of TV watching. Among the more than 15,000 participants available for follow-up, the baseline age was in the mid-50s. Persons who were more likely to have increased TV viewing were African American, current smokers, have a history of cardiovascular disease, and a higher body mass index. Statistical modeling showed an association when adjusted for age, sex, and race. The association between TV viewing and venous thromboembolism persisted regardless of exercise. A higher body mass index weakened the association, but it still continued.

Comments: The baseline data collected for the Atherosclerosis Risk in Communities Study population health study was in 1987 to 1989. The participants are now 30 years older with likely increased levels of retirement, comorbid conditions, and decreased mobility. I would like to see a more current study. Obesity has increased, especially in younger groups, and TV viewing is ubiquitous with widespread use and availability of electronic devices. It is likely that modern data will show an even stronger association and I may rethink my binge-watching habits.

Direct oral anticoagulants for patients with cancer: More data needed

Edoxaban for the Treatment of Cancer-Associated Venous Thromboembolism

Raskob GE, van Es N, Verhamme P, Carrier M, Di Nisio M, Garcia D, et al. Hokusai VTE Cancer Investigators N Engl J Med 2018;378:615-24.

Conclusions: Oral edoxaban was similar to subcutaneous dalteparin for the treatment of cancer-associated venous thromboembolism (VTE) for a composite outcome of recurrent VTE or major bleeding. The rate of recurrent venous thromboembolism was lower, but the rate of major bleeding was higher with edoxaban than with dalteparin.

Summary: Patients with cancer are known to be at increased risk of VTE and evidence-based guidelines recommend that cancer-associated VTE be treated with at least 6 months of low-molecular-weight heparin. Edoxaban, an oral direct factor Xa inhibitor, has recently been approved for the treatment of VTE and is at least as effective as vitamin K antagonist (warfarin). This trial of 1050 adult patients with advanced cancer compared edoxaban with subcutaneous dalteparin for the treatment of VTE in a prospective randomized trial. The primary outcome measure was a composite of VTE or major bleeding. This outcome occurred in 12.8% of the edoxaban group and 13.5% of the dalteparin group (hazard ratio, 0.97; 95% confidence interval, 0.70-1.36; $P = .006$). The rate of major bleeding was significantly higher with edoxaban and mainly related to upper gastrointestinal bleeding.

Comments: Long-term low-molecular-weight heparin for VTE treatment is burdensome, not only because it is expensive, but also because it must be administered subcutaneously. Direct oral anticoagulants are clearly more desirable because of the delivery mode, but need to be proven to be at least as safe and effective as standard therapy for VTE. I would say the jury is still out on this agent.

We have come a long way!!

Diagnosis of Venous Thromboembolism: 20 Years of Progress

Wells PS, Ihaddadene R, Reilly A, Forgie MA. Ann Intern Med 2018;168:131-40.

Conclusions: A great deal of research has been done identifying clinical prediction tools and developing reliable algorithms for diagnosis and treatment of venous thromboembolism (VTE). This study reviewed the progress to date as well as the evidence behind an algorithmic approach and knowledge gaps which still remain.

Summary: Two reviewers independently evaluated 280 systematic reviews or meta-analyses evaluating diagnostic strategies for VTE, as well as more than 700 additional abstracts of randomized controlled trials. Ultimately, medium- and high-quality data (using the Scottish Intercollegiate Guidelines Network [SIGN] criteria) informed this study. Prediction models calculating pretest probability of deep venous thrombosis or pulmonary embolism are of value in determining both the necessity of imaging studies as well as informing the choice of specific study for validation. D-Dimer testing and pretest probability combined with imaging in selected outpatients is safe and cost effective. In-patients should go directly to imaging if pulmonary embolism is suspected.

Comments: High-value care is the safest and best care for the patient at the right price. The use of pretest clinical prediction tools for VTE leads to a standardized approach and reasonable ordering of diagnostic imaging for confirmation. Without clinical probability determination, there will be over-testing and increased healthcare costs. The data is strong, the tools are good when used precisely. There are always areas for improvement and additional research.

Information overload?

Treatment of Varicose Veins, International Consensus on Which Major Complications to Discuss With the Patient: A Delphi Study

de Mik SM, Stubenrouch FE, Legemate DA, Balm R, Ubbink DT. Phlebology 2019;34:201-7.

Conclusions: This study determined via international consensus 12 major and 12 minor complications of varicose vein treatment should be discussed with a patient as part of the informed consent and shared-decision making process.

Summary: This study of key opinion leaders in varicose vein treatments was done using Delphi methodology to asses both short-term and long-term complications of several modalities of venous treatment: open and endovenous ablation techniques as well as sclerotherapy. Complications were divided into minor, moderate, or severe severity with the Delphi-iterative process used in five rounds to allow for consensus and consideration of newly introduced complications. This list may assist physicians in treatment option discussions with their patients.

Comments: How much information should be discussed with a patient? How do we decide what would be important to the individual? When do patients reach information saturation and stop hearing the litany of risks and benefits of proposed procedures — have all relevant facts been disclosed? Does the surgeon always include the option of "doing nothing"? Is informed consent truly "informed"? This study, while simplistic in scope and methodology, is a reminder that even simple procedures can have extensive and impactful outcomes. Patients do have a right to know.

The need for inclusion of geriatric patients in research

Effects of Preventive Use of Compression Stockings for Elderly With Chronic Venous Insufficiency and Swollen Legs: A Systematic Review and Meta-Analysis

Dahm KT, Myrhaug HT, Strømme H, Fure B, Brurberg KG. BMC Geriatr 2019;19:76.

Conclusions: Lower grades of compression stockings may provide adequate control of symptoms of chronic venous insufficiency, including edema as well as venous thrombosis but the data has not been conclusive. Class 2 stockings are probably better than class 1 in decreasing ulcer recurrence rates in elderly patients, but higher compression may not be of additional benefit.

Summary: The risk of venous insufficiency increases with age, immobility, and decreased exercise. While data support compression as beneficial, particularly in patients less than 70 years of age, elderly patients may require assistance in donning medical-grade compression hose. This well-constructed systematic review and meta-analysis was performed to provide an updated analysis of compression stocking effectiveness. A review of five randomized, controlled trials evaluating class 2 (20-30 mm Hg) or 3 (30-40 mm Hg) stockings in elderly patients were included, the quality of evidence assessed as moderate by the GRADE criteria. Class 2 stockings were probably better than class 1 (<20 mm Hg) in reducing ulcer recurrence, but the results were mixed and cohort size limited. Higher grades did not demonstrate incremental decreases. There was not clear improvement in symptomatology, prevention of venous thrombosis, or improving mobility regardless of compression class.

Comments: Compliance with stockings is critical to demonstrate improvements in chronic venous insufficiency and prevention of sequelae. I believe most of us would rather a patient wear a lower grade of compression hose consistently than be noncompliant with higher compression owing to discomfort or difficulty donning.