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Review and commentary of key non-JVS-VL articles

Resist the inferior vena cava filter urge

A Multicenter Trial of Vena Cava Filters in Severely Injured Patients

Ho KM, Rao S, Honeybul S, Zellweger R, Wibrow B, Lipman J, et al. N Engl J Med 2019; 381:328-37.

Conclusions: In trauma patients admitted to the hospital, early prophylactic placement of an inferior vena cava (IVC) filter did not result in a lower incidence of either symptomatic pulmonary embolism or death.

Summary: This trial, conducted at four Australia hospitals, enrolled eligible patients following a major trauma with an injury severity score of greater than 15, had a contraindication to prophylactic pharmacologic anticoagulation, and were within 72 hours of admission. Of 1714 patients, 240 were enrolled and randomized to the retrievable filter group or no filter group (control). Filters were removed as soon anticoagulation could be started and all patients had mechanical compression. In this young group (39 years), the Injury Severity Score was 27 and more than 57% had traumatic cerebral contusions or hematomas. There was no difference in the composite primary outcome of symptomatic pulmonary embolism or death. Almost 5% of filter patients had trapped thrombus in the filter at removal and 31.5% did not have their filter removed for technical reasons or because of loss to follow-up.

Comments: This provocative study raises several points worthy of consideration. First, IVC filter placement should be individualized and not part of a routine trauma protocol when anticoagulation is contraindicated. Many times, anticoagulation can be started within a few days when the risk of bleeding decreases. Second, plans for filter removal need to be improved, as has been stated in many studies unless there is a medical reason to continue such as ongoing risk or need for multiple operations. Last, prophylactic IVC filters add a significant cost without much return and have their own inherent risks.

A word of caution with mesenteric venous thrombosis

Clinical Implications of Different Risk Factor Profiles in Patients With Mesenteric Venous Thrombosis and Systemic Venous Thromboembolism: A Population-based Study

Salim S, Zarrouk M, Elf J, Gottsäter A, Sveinsdottir S, Svensson P, et al. J Thromb Thrombolysis 2019; 47:572-7.

Conclusions: Patients with mesenteric venous thrombosis (MVT) have a higher prevalence of both solid and intra-abdominal cancer than patients with systemic venous thromboembolism (VTE) as well as a lower prevalence of factor V Leiden mutation.

Summary: This study was conducted in Malmö, Sweden, on a population of 1465 patients with VTE that was followed from 1998 to 2017 or death. All patients had thrombophilia profiles. Patients with MVT were younger, healthier, smoked less, and had fewer operations than other VTE patients. Cancer prevalence was higher (MVT 19.2% vs VTE 12.1%; $P = .026$) as was intra-abdominal cancer (MVT 16.7% vs 2.3%; $P < .001$). The prevalence of factor V Leiden mutation was lower in patients with MVT. Patients with MVT also had a much higher 30-day mortality rate than VTE patients (10.8% vs 0.5%; $P < .001$), but no difference in long-term mortality.

Comments: This is a fascinating population-based study showing that patients diagnosed with MVT in addition to standard treatment, need to have increased screening for cancer perhaps beyond the routine computed tomography scanning. Thrombophilia testing also needs to occur. Regardless, early mortality remains high, usually from intestinal infarction. Once though patients are beyond the early phase, continued examination and testing needs to continue in case of seemingly unprovoked MVT.

More than a flip of a coin

Randomized Clinical Trial Of Mechanochemical and Endovenous Thermal Ablation of Great Saphenous Varicose Veins

Vähäaho S, Mahmoud O, Halmesmäki K, Albäck A, Noronen K, Vikatmaa P, et al. Br J Surg 2019; 106:548-54.

Conclusions: In this prospective, randomized, controlled trial comparing endovenous thermal ablation with mechanochemical ablation (MOCA), both endovenous laser ablation (EVLA) and radiofrequency ablation (RFA) had higher great saphenous vein occlusion rates at 1 year with similar patient satisfaction.

Summary: This single-center study randomly assigned 132 patients (of >4000 screened patients) to EVLA, RFA, or MOCA. The groups were similar in terms of demographics with most patients being class C2 or C3. Concomitant phlebectomies were routinely performed. At 1 year, 100% of RFA and EVLA were fully occluded and 82% in the MOCA group ($P = .002$). Time off work and postoperative pain were the same. In MOCA patients, size of the proximal great saphenous vein was associated with recanalization. However, ultrasonographic recanalization was not associated with symptom recurrence.

Comments: It is great to see randomized controlled trials being performed assessing newer ablation techniques; however, only 3.3% of screened patients were actually enrolled in this study owing to strict inclusion criteria. Also, patients received concomitant phlebectomies, so assessing level of postoperative pain or pain medication required cannot be attributed to the ablation procedure alone. This is a good addition to the data, but much more is needed.

To DOAC or not to DOAC

Which Patients With Unprovoked Venous Thromboembolism Should Receive Extended Anticoagulation with Direct Oral Anticoagulants? A Systematic Review, Network Meta-analysis, and Decision Analysis

Djulbegovic M, Lee AI, Chen K. J Eval Clin Pract 2019 Jun 12 [Epub ahead of print]

Conclusions: Extended anticoagulation with direct-acting anticoagulants (DOACs) should be considered for all patients with unprovoked deep venous thrombosis who are not at increased bleeding risk.

Summary: This systematic review included four randomized controlled trials including 8386 patients and comparing extended anticoagulation with one DOAC to another DOAC, aspirin, or placebo. No DOAC was associated with increased bleeding and all were efficacious for prevention of VTE recurrence. A threshold decision-analytic model was populated with data from the meta-analysis and showed that a VTE recurrence risk of 0.3% to 0.4% at 1 year was the threshold for continued DOAC anticoagulation.

Comments: Patients with an unprovoked VTE are a special population who may be at increased risk for recurrence and may benefit from extended DOAC treatment beyond current guideline recommendations.

Living with varicose veins

Experiences of Living With Varicose Veins: A Systematic Review of Qualitative Research

Lumley E, Phillips P, Aber A, Buckley-Woods H, Jones GL, Michaels JA. J Clin Nurs 2019; 281085-99.

Conclusions: Currently used patient-reported outcome measures may not fully capture the impact of varicose veins (VV) on quality of life or coping adaptations made by patients.

Summary: Three qualitative studies formed the basis of this review, from more than 1800 references initially identified. Five overarching themes were identified: physical, psychological, and social impacts of VV; adaptations to VV; and reasons to seek treatment. There was a wide range of reported symptoms with pain, heaviness, and itching being most common. The primary reason for patients to seek treatment was for symptom relief.

Comments: The details of this qualitative review are worth reading. Patient-reported outcome measures are often documented, but current instruments may not fully measure the effect of VV on quality of life. Understanding adaptations patients have made to cope with VV, helping with self-care and compression compliance, and setting realistic treatment outcome expectations are all important in patient-centered care.

Combining trauma datasets may strengthen validity

Whose Benchmark is Right? Validating Venous Thromboembolism Events Between Trauma Registries and Hospital Administrative Databases

Miano TA, Abelian G, Seamon MJ, Chreiman K, Reilly PM, Martin ND. J Am Coll Surg 2019; 228:752-9.e3.

Conclusions: Venous thromboembolic events (VTE) in a level one trauma center trauma registry were compared with hospital administrative data with a low-false positive rate validating the registry.