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A-Z Series article

Venous thromboembolism risk factor assessment and prophylaxis.

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Abstract: Venous thromboembolism (VTE) risk assessment and prophylaxis, as currently practised and recommended, is often underutilized. Venous thrombosis is a major problem worldwide, and is often preventable in the hospitalized setting. It is estimated that approximately 100:100,000 persons have a first time VTE event per year. In fact, the incidence of VTE is identical to cardiovascular incidence for patients at moderate risk as shown by the recent Jupiter Trial. Thus, at least 200,000 patients per year (as a low estimate) are affected by VTE. About 30% of patients with VTE suffer mortality at 30 days, and 30% have a recurrent VTE at 10 years follow-up. This overview will focus on epidemiology, VTE risk assessment and quality measures, prophylaxis and the potential utility of biomarkers.

Review Article

Venous malformation: update on aetiopathogenesis, diagnosis and management.

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Abstract: The aim of this review was to discuss the current knowledge on aetiopathogenesis, diagnosis and therapeutic management of venous malformations (VMs). VMs are slow-flow vascular anomalies. They are simple, sporadic or familial (cutaneomucosal VMs or glomuvenous malformations), combined (e.g. capillaro-venous and capillaro-lymphaticovenous malformations) or syndromic (Klippel-Trenaunay, blue rubber bleb naevus and Maffucci). Genetic studies have identified causes of familial forms and of 40% of sporadic VMs. Another diagnostic advancement is the identification of elevated D-dimer level as the first biomarker of VMs within vascular anomalies. Those associated with pain are often responsive to low-molecular-weight heparin, which should also be used to avoid disseminated intravascular coagulopathy secondary to intervention, especially if fibrinogen level is low. Finally, development of a modified sclerosing agent, ethylcellulose-ethanol, has improved therapy. It is efficient and safe, and widens indications for sclerotherapy to sensitive and dangerous areas such as hands, feet and periocular area.

Keywords: Klippel-Trenaunay syndrome, ethylcellulose-ethanol, sclerotherapy, D-dimer, Maffuci syndrome.

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Original Article

Epidemiology and risk factors for varicose veins among older people: cross-sectional population study in the UK.

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Abstract:

Background: There are many hypotheses concerning risk factors for the development of varicose veins based mostly on pathophysiological plausibility. Population studies have been carried out mostly on the middle aged with relatively few on elderly populations.
Objectives: To investigate epidemiological risk factors for varicose veins in an elderly population in the UK.
Methods: The South Wales Skin Cancer study – an examination survey undertaken between 1988 and 1991 of a random sample (n = 792) drawn from all patients aged 60 and over registered with a general practitioner in South Glamorgan. Exposure variables were obtained from a structured administered questionnaire combined with clinical examination. Unadjusted and adjusted odds ratios were estimated using logistic regression.
Results: The response rate was 71% with an average age of 71 years (range 60–97). The age-adjusted prevalence of trunk varices was 63.2% (95% confidence interval [CI] 57.9–68.4%) in men and 57.0% (95% CI 50.6–63.4%) in women. In a multiple logistic regression the significant risk factors for varicose veins were increasing age (P value = 0.001), obesity (odds ratio [OR] 3.28, 95% CI 1.25–8.63, P = 0.042), self-reported history of deep vein thrombosis (DVT) (OR 3.19, 1.16–8.78, P = 0.024) and history of hypertension (OR 0.58, 0.38–0.89, P = 0.013). The results for gender suggested that women were at greater risk than men, but this was not statistically significant (OR 1.53, 0.99–2.38, P = 0.056).
Conclusion: Trunk varices occur very commonly in older age groups with increasing age, obesity and possibly female sex as risk factors. Associations found with DVT and hypertension were based on history alone and must be interpreted with caution.

Keywords: varicose veins, risk factors, epidemiology.

Original Article

Triple-lumen double-balloon catheter for foam sclerotherapy of the great saphenous vein: critical review on preliminary results.

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Abstract:

Background: Different catheters (angiography, single-balloon) have been used for foam sclerotherapy of the great saphenous vein (GSV).
Objective: Is there greater efficacy and safety in the use of a double-balloon catheter?
Methods: Twenty patients were treated with a double-balloon catheter and 3% polidocanol foam. Follow-up after one day, one and six weeks, six and 12 months.
Results: Up to week six complete success was seen in 95% (19/20) patients. Only eight patients attended the checks after six and 12 months. The occlusion rates were 75% (6/8, 6 months) resp. 50% (4/8, 12 months). A further 10 patients refused these checks as they were free of symptoms but could be questioned. Side-effects were haematoma (100%), limited phlebitis (15%) and one extended thrombophlebitis followed by hyperpigmentation.
Conclusion: A double-balloon catheter is a safe treatment option for foam sclerotherapy of the GSV. However, in this case series efficacy is not superior to the use of an angiography-catheter, a single-balloon catheter or just the direct puncture of the vein.

Keywords: foam sclerotherapy, catheter, balloon, varicosis, chronic venous insufficiency.

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Original Article

Aortic elastic properties in patients with venous thromboembolism.

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Abstract:

Objectives: The relationship between venous thrombosis (VT) and atherosclerosis is controversial in recent studies. Aortic elastic properties have a predictive value in detecting early stages of atherosclerosis. The aim of this study is to evaluate the relationship between aortic elastic properties and VT.
Methods: Elastic properties of aorta in patients with spontaneous VT, without history of known cardiovascular disease and cardiovascular risk factors (n: 31), and in healthy subjects without cardiovascular risk factors (n: 30) were compared. Elastic properties of the aorta were assessed with transthoracic echocardiography.
Results: A significant increase in aortic stiffness index (6.5 ± 1.0 *versus* 6 ± 0.7, P = 0.03) and a significant decrease in aortic strain and aortic distensibility were found in patients with VT compared with healthy subjects (8.4 ± 7 *versus* 13 ± 8, P = 0.01, 4.9 ± 4.8 *versus* 6.5 ± 4.4, P = 0.03, respectively).
Conclusions: Elastic properties of aorta in patients with spontaneous VT were impaired. These results may support the role of endothelial dysfunction in the pathogenesis of VT.

Keywords: venous thrombus, endothelial function, aortic stiffness.

Original Article

Duplex scanning is no substitute for surgical expertise in identifying the saphenopopliteal junction: results following short saphenous vein surgery.

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Abstract:

Objectives: Short saphenous vein (SSV) surgery carries a high risk of failure to identify the saphenopopliteal junction (SPJ). We assessed the impact of surgical expertise on anatomical outcome from SSV surgery and the role of preoperative duplex SPJ marking in improving outcome for vascular and non-vascular specialists.
Methods: A retrospective analysis identified patients (30 limbs) who had undergone SSV surgery. These were recalled for duplex scanning of the SPJ. In a prospective study, 187 limbs had preoperative duplex marking of SPJ and postoperative duplex to assess outcome. Grade of operating surgeon was recorded in both retrospective and prospective analysis.
Results: In both retrospective and prospective analysis, vascular specialists were significantly more likely than non-vascular specialists to correctly identify the SPJ (P < 0.0001). Preoperative SPJ marking did not improve outcome for the vascular specialist or the non-vascular specialist.
Conclusion: Preoperative SPJ marking is no substitute for surgical expertise. Competence in SSV surgery should be assessed prior to surgeons proceeding to independent practice.

Keywords: saphenopopliteal junction, recurrence, duplex ultrasound, surgery.

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Original Article

Traveller's thrombosis: airlines still not giving passengers the WRIGHT advice!

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Abstract:

Introduction: This study has examined the impact of the World Health Organization's Research into Global Hazards of Travel (WRIGHT) Project's phase 1 report on the information given by airlines to their passengers regarding traveller's thrombosis.
Methods: Official websites of all airlines flying from Heathrow (UK) and John F Kennedy (USA) were located through links on the websites of these two busy international airports. In June 2007, each site was scrutinized by three independent researchers to identify if traveller's thrombosis and its risk factors were discussed and what methods of prevention were advised. This exercise was repeated a year after the publication of the WRIGHT report.
Results: One hundred and nineteen international airlines were listed in 2007 (12 were excluded from analysis). A quarter (27/107) of airlines warned of the risk of traveller's thrombosis. A year later, five airlines were no longer operational and there had been no increase in the discussion of traveller's thrombosis (23/102). Additional risk factors discussed in June 2007 *versus* September 2008: previous venous thromboembolism (16%, 15%); thrombophilia (14%, 15%); family history (11%, 9%); malignancy (12%, 14%); recent surgery (19%, 16%); pregnancy (17%, 16%) and obesity (11%, 12%). Prophylaxis advice given in June 2007 *versus* September 2008: in-flight exercise (34%, 42%); hydration (30%, 34%); medical consultation prior to flying (20%, 18%); graduated compression stockings (13%, 12%); aspirin (< 1%, < 1%) and heparin (5%, 7%).
Conclusions: The majority of world airlines continue to fail to warn of the risk of traveller's thrombosis or offer appropriate advice. Alerting passengers at risk gives them an opportunity to seek medical advice before flying.

Keywords: traveller's thrombosis, deep vein thrombosis, pulmonary embolus.

Original Article

Pathophysiology of visual disturbances occurring after foam sclerotherapy.

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Abstract:

Background: Visual disturbances (VDs) are reported with an average rate of 1.4% after foam sclerotherapy (FS). Some clinical clues indicate that they could correspond to migraine with aura (MA).
Aims: To validate the hypothesis that VDs occurring after FS correspond to MA and are not transient ischaemic cerebrovascular events.
Method: A prospective multicentre study was carried out by the French Society of Phlebology in collaboration with the Neurology Department of the Marseille University Hospital (France). We included prospectively and consecutively all patients who experienced VDs after FS using air to make the foam. The patients were assessed (1) clinically with a specific form describing procedures of FS and recording neurological symptoms, later analysed by a neurologist specialized in migraine; and (2) by a brain diffusion-weighted magnetic resonance imaging (MRI) (T1, T2, T2*, diffusion) carried out within two weeks and analysed by a neuroradiologist.
Results: Twenty patients, 16 women and four men, were included in 11 phlebology clinics. All kinds of veins were treated. VDs occurred in average seven minutes after FS. Clinical assessment showed that VDs presented characteristics of MA in all patients, with headache in 10 and without in 10. Paresthesia was observed in five patients and dysphasic speech disturbance in one. Fifteen patients (75%) had a personal history of migraine. Fifteen MRIs were performed within two weeks (mean: 8 days) and three were late (26 days). All of them were normal. MRI was not performed in two patients.
Conclusion: These results show that VDs occurring after FS correspond to MA and are not transient ischaemic cerebrovascular events. We suggest a pathophysiological hypothesis resting on the release of endothelin that would reach the cerebral cortex through a paten foramen ovale.

Keywords: foam sclerotherapy, visual disturbance, migraine with aura, endothelin.