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47 (52%), and 11 (12%) patients, respectively. Endografts were branched (25%), fenestrated (17%), or tubular (58%). At 30 days, there were no deaths or clinical strokes. On cerebral DW-MRI, a total of 245 SBI were identified in 45 patients (50%). Lesions were in the left hemisphere in 63% of the patients (153/245), predominantly in the middle territory (94/245). Deployment in zone 0–1 ($p = .026$), placement of a branched or fenestrated endograft ($p = .038$), a proximal endoprosthesis diameter ≥ 40 mm ($p = .038$), and an urgent procedure ($p = .005$) were significantly associated with the presence of SBI on univariable analysis, while urgent procedure was found to be an independent predictor on multivariable analysis (binary logistic regression) ($p = .002$).

Conclusion: SBI following endovascular repair of the aortic arch is frequent, although there were no clinical strokes. Innovative strategies to reduce the risk of embolisation need to be developed.

The GermanVasc Score: A Pragmatic Risk Score Predicts Five Year Amputation Free Survival in Patients with Peripheral Arterial Occlusive Disease



Kreutzburg T, Peters F, Kuchenbecker J, Marschall U, Lee R, Kriston L, Debus ES, Behrendt C-A. Eur J Vasc Endovasc Surg 2021;61:248-56.

Objective: Patients with peripheral arterial occlusive disease (PAOD) face an increased risk of both lower limb amputation and death. To date, it has been challenging to predict the long term outcomes for PAOD. The aim was to develop a risk score to predict worse five year amputation free survival (AFS).

Methods: In this retrospective analysis of claims data, symptomatic PAOD patients were split into training and validation sets. Variables in the model were patient age and sex, Elixhauser comorbidities, and the 190 most common secondary diagnoses. Penalised Cox regression (least absolute shrinkage and selection operator [LASSO]) with tenfold cross validation for variable selection was performed and patients were categorised into five risk groups using the ten most important variables. All analyses were stratified by intermittent claudication (IC) and chronic limb threatening ischaemia (CLTI).

Results: In total, 87 293 patients with PAOD (female 45.3%, mean age 71.4 ± 11.1 years) were included in the analysis. The most important variable predicting worse five year AFS was patient age >80 years. The GermanVasc score exhibited good predictive accuracy both for IC (c statistic = 0.70, 95% confidence interval [CI] 0.69–0.71) and CLTI (c statistic = 0.69, 95% CI 0.68–0.70) with adequate calibration due largely to alignment of observed and expected risk. Depending on the cumulative point score, the five year risk of amputation or death ranged from 9% (low risk) to 48% (high risk) for IC, and from 25% to 88% for CLTI.

Conclusion: The GermanVasc score predicts worse five year AFS stratified for inpatients suffering from IC and CLTI, with good predictive accuracy. By separating low from high risk patients, the GermanVasc score may support patient centred consent.

Vascular Surgery During COVID-19 Emergency in Hub Hospitals of Lombardy: Experience on 305 Patients



Kahlberg A, Mascia D, Bellosta R, Attisani L, Pegorer M, Socrate AM, Ferraris M, Trabattoni P, Rinaldi E, Melloni A, Monaco F, Melissano G, Chiesa R. Eur J Vasc Endovasc Surg 2021;61:306-15.

Objective: During the most aggressive phase of the COVID-19 outbreak in Italy, the Regional Authority of Lombardy identified a number of hospitals, named Hubs, chosen to serve the whole region for highly specialised cases, including vascular surgery. This study reports the experience of the four Hubs for Vascular Surgery in Lombardy and provides a comparison of in hospital mortality and major adverse events (MAEs) according to COVID-19 testing.

Methods: Data from all patients who were referred to the Vascular Surgery Department of Hubs from 9 March to 28 April 2020 were collected prospectively and analysed. A positive COVID-19 polymerase chain reaction swab test, or symptoms (fever > 37.5 °C, upper respiratory tract symptoms, chest pain, and contact/travel history) associated with interstitial pneumonia on chest computed tomography scan were considered diagnostic of COVID-19 disease. Patient characteristics, operative variables, and in hospital outcomes were compared according to COVID-19 testing. A multivariable model was used to identify independent predictors of in hospital death and MAEs.

Results: Among 305 included patients, 64 (21%) tested positive for COVID-19 (COVID group) and 241 (79%) did not (non-COVID group). COVID patients presented more frequently with acute limb ischaemia than non-COVID patients (64% vs. 23%; $p < .001$) and had a significantly higher in hospital mortality (25% vs. 6%; $p < .001$). Clinical success, MAEs, re-interventions, and pulmonary and renal complications were significantly worse in COVID patients. Independent risk factors for in hospital death were COVID (OR 4.1), medical treatment (OR 7.2), and emergency setting (OR 13.6). COVID (OR 3.4), obesity class V (OR 13.5), and emergency setting (OR 4.0) were independent risk factors for development of MAEs.

Conclusion: During the COVID-19 pandemic in Lombardy, acute limb ischaemia was the most frequent vascular disease requiring surgical treatment. COVID-19 was associated with a fourfold increased risk of death and a threefold increased risk of major adverse events.