

One Year on: Test Your Knowledge From April 2021

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- 1. The New Zealand vascular surgical risk tool (NZRISK-VASC), a multivariable prediction model of perioperative mortality in vascular surgery, was developed and validated on 21 597 patients. In this model, which covariate was not associated with 30-day, 1-year or 2-year mortality? ¹**
 - A) Renal failure
 - B) Cancer status
 - C) Smoking status
 - D) Diabetes
 - E) Urgency of the surgery
- 2. A retrospective single centre analysis between 2009 and 2018 included 59 patients treated for type IA endoleak after endovascular aneurysm repair (EVAR) with either endograft explantation (EXP, n=26) and aortic reconstruction or relining by custom made fenestrated EVAR (F-EVAR, n=33). According to the results of this study, which of the following is correct? ²**
 - A) EXP had a higher postoperative mortality compared with F-EVAR
 - B) EXP had a higher postoperative morbidity compared with F-EVAR
 - C) EXP had a higher long-term mortality compared with F-EVAR
 - D) F-EVAR had a higher 30-day reintervention rate compared with EXP
 - E) None of the above
- 3. A prospective, non-randomised, non-comparative single center trial from July 2012 to September 2015 included 25 patients with a juxtarenal AAA meeting the inclusion criteria for the COOK Zenith p-Branch device, an “off the shelf” fenestrated stent graft. According to the results of this study, what was the AAA related mortality during the follow up period? ³**
 - A) 0%
 - B) 5%
 - C) 10%
 - D) 20%
 - E) 30%
- 4. A prospective population and registry based cohort study, supplemented by a retrospective review of medical records and imaging files, in Denmark included 245 patients who had an endovascular intervention for chronic mesenteric ischaemia (CMI) (n=178; 72.6%) or acute on chronic mesenteric ischaemia (AoCMI) (n=67; 27.3%). According to the results of this study, which of the following statements regarding the treatment results of CMI and AoCMI patients is true? ⁴**
 - A) Lesions of the celiac artery were the far most frequent in both groups.
 - B) First-line endovascular treatment of AoCMI was related with a three-year mortality rate of 25% and a low risk of recurrence of symptomatic ischaemia.
 - C) Age and comorbidities were predictors of mortality in both CMI and AoCMI-group.
 - D) Analysis showed that a stenosed SMA, relative to an occlusion, significantly increased SMA recanalisation success in both groups.
 - E) In the CMI group, successful revascularization of an SMA occlusion, compared to revascularization of an SMA stenosis, was associated with better immediate clinical improvement.

5. An experimental study aimed to investigate the spatial distribution and dynamic changes of matrix metalloproteinase (MMP)-2, MMP-9, and collagen in in-stent restenosis (ISR) and to explore their influence on ISR. Sixty Z type stents were implanted into the common iliac arteries of minipigs. ISR occurred in all six minipigs in the 56-day group (percentage diameter stenosis range 71.6%-79.2%). Which of the following constitutes more than half of the neointima volume of in-stent restenosis tissue? ⁵
- A) extracellular matrix
 - B) vascular smooth muscle cells
 - C) endothelial cells
 - D) collagen
 - E) proteoglycans
6. A cohort study of 230 critically ill patients due to coronavirus disease of 2019 (COVID-19) due to SARS-CoV-2 infection determined the frequency of venous thromboembolism (VTE) in critically ill patients with COVID-19 and its correlation with D dimer levels. According to the results of this study, what was the sensitivity and specificity of a D-dimer limit ≥ 1500 ng / mL in relation to VTE events in this series? ⁶
- A) Sensitivity 40% and specificity 60%
 - B) Sensitivity 40% and specificity 80%
 - C) Sensitivity 60% and specificity 60%
 - D) Sensitivity 80% and specificity 40%
 - E) Sensitivity 100% and specificity 100%
7. A retrospective study on sixty-six patients with spontaneous cervicocerebral artery dissection (sCCD) and 66 controls investigated the correlation between tortuosity of the carotid artery and sCCD. The extracranial ICA was categorised as simple tortuosity, coiling or kinking. According to the results of this study, which of the following is correct? ⁷
- A) The prevalence of any tortuosity of the extracranial ICA was higher in the patients with sCCD
 - B) The prevalence of any coiling of the extracranial ICA was higher in the patients with sCCD
 - C) The prevalence of any kinking of the extracranial ICA was higher in the patients with sCCD
 - D) All of the above
 - E) The prevalence of any coiling or kinking (but not simple tortuosity) of the extracranial ICA was higher in the patients with sCCD
8. The quality of patient information relating to intermittent claudication and peripheral arterial disease on the World Wide Web was assessed by a recent study. Website quality was scored using the University of Michigan Consumer Health Website tool. Which one of the following factors is not addressed in the Michigan Consumer Health Web Site Evaluation Checklist? ⁸
- A) Audience
 - B) Authorship
 - C) Content
 - D) Navigation
 - E) Speed
9. A single centre retrospective study evaluated 73 consecutive patients who underwent chimney endovascular aortic repair (ChEVAR) between January 2009 and December 2017, with the aim to identify predictors of adequate preoperative sizing in order to reduce the incidence of persistent type Ia endoleaks (IaELs) without influencing chimney graft (CG) patency. According to the results of this study, what is the most appropriate main graft oversizing (OS) for ChEVAR with 1 or 2 chimney grafts? ⁹
- A) OS 20-30%
 - B) OS $\geq 30\%$, increasing OS in case of double chimneys and/or hostile neck anatomies
 - C) OS 30%
 - D) OS 20-30%, increasing OS in case of double chimneys and/or hostile neck anatomies
 - E) OS 20% or 30% for 1 or 2 chimney grafts, respectively

10. An analysis of a prospectively maintained database, involving 566 consecutive patients diagnosed with chronic limb-threatening ischaemia (CLTI) seen at an outpatient based vascular limb salvage (VaLS) clinic from February 2018-February 2019, reported the 12 month outcomes, including freedom from major amputation at 12 months, which was the primary outcome of the study. Data were compared with two comparator cohorts, identified from coding data: 1) patients managed prior to the clinic, between May 2017 and February 2018 (Pre-Clinic [PC]); and 2) patients managed outside of clinic, between February 2018 and February 2019 (Alternative Pathways [AP]). According to the results of this study, which of the following is correct? ¹⁰
- A) Patients managed within the VaLS cohort were statistically significantly more likely to be free from major amputation compared with the AP
 - B) Patients managed within the VaLS cohort were equally likely to be free from major amputation compared with the PC cohort
 - C) Patients managed within the VaLS cohort were statistically significantly less likely to be free from major amputation compared with the PC cohort
 - D) Patients managed within the AP cohort were statistically significantly likely to be free from major amputation compared with the PC cohort
 - E) Patients managed within the AP cohort were statistically significantly less likely to be free from major amputation compared with the PC cohort
11. A systematic review evaluated the efficacy of wearable activity monitors (WAMs) as a feedback and monitoring tool in home-based exercise programmes for patients with intermittent claudication. Eight randomised controlled trials and one prospective cohort study met the inclusion criteria. Which of the following is not a limitation of the included studies involving home-based exercise interventions incorporating wearable activity monitors? ¹¹
- A) Adherence to wearable device use
 - B) Use of different outcome measures
 - C) Duration of the exercise programme
 - D) Loss of interest in the study
 - E) Cost of wearable devices.
12. A systematic review and meta-analysis of wound adjuncts for the prevention of groin wound surgical site infection in arterial surgery identified 17 RCTs and seven observational studies, reporting on 3 747 patients. According to the results of this study, which of the following reduces groin wound surgical site infection? ¹²
- A) local antibiotics
 - B) subcuticular sutures
 - C) wound drains
 - D) fibrin glue
 - E) All of the above
13. A systematic review and meta-analysis investigated the prevalence of cognitive impairment in individuals with vascular surgical pathology. Twenty-four studies (2 564 participants) were included in the systematic review, and nine studies (1 310 participants) were included in the meta-analyses. According to the results of this study, how much was the prevalence of cognitive impairment in patients with carotid artery disease? ¹³
- A) Approximately 10%
 - B) Approximately 25%
 - C) Approximately 40%
 - D) Approximately 55%
 - E) Approximately 60%

- 14. A comparative cohort study compared mid-term outcomes between crossed limb (CL, n = 194) and standard limb (SL, n = 535) configuration in 729 patients who underwent endovascular aortic aneurysm repair (EVAR). According to the results of this study, which of the following is correct?** ¹⁴
- A) Adverse limb events were significantly more common in CL configuration.
 - B) Type IA endoleak was significantly more common in CL configuration.
 - C) Type II endoleak was significantly more common in CL configuration.
 - D) Re-intervention rates were significantly more frequent in CL configuration.
 - E) In the subgroup analysis of large aneurysm sac, the CL configuration was associated with a significantly decreased risk of T1B endoleaks.
- 15. A multicentre, retrospective, observational cohort study which involved all vascular surgery services in Lombardy, Northern Italy covering the nine weeks of the Italian COVID-19 pandemic phase 1 (8 March 2020 to 3 May 2020) investigated the characteristics and outcomes of patients undergoing vascular surgery hospitalised and managed with a comparison of patients tested positive for COVID-19 (CV19-pos) vs. those tested negative (CV19-neg). Among 674 patients managed during the outbreak, 659 (97.8%) were included in the final analysis. According to the results of this study, did COVID-19 represent a major risk for patients undergoing vascular surgery?** ¹⁵
- A) no, there was no significant difference between patients tested positive and those tested negative for COVID-19
 - B) yes, but only in men
 - C) yes, patients who underwent vascular surgery management had a >7x increase risk of in-hospital mortality and >4x increase of complications
 - D) yes, especially in patients < 80y of age
 - E) yes, but there is no statistical trend
- 16. A comprehensive review of 20 studies on 711 patients investigated the technical details and clinical results of physician modified stent grafts (PMSGs) used in selected cases of complex aortic pathologies. How much was the range of technical success in this study?** ¹⁶
- A) Approximately 75% to 85%
 - B) Approximately 84% to 95%
 - C) Approximately 88% to 100%
 - D) Approximately 92% to 99%
 - E) Approximately 95% to 97%

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Answers from previous issue (March 2022)

1E, 2E, 3C, 4D, 5E, 6A, 7B, 8C, 9C, 10D, 11C, 12E, 13B, 14C, 15B, 16D, 17A