Trans-Atlantic Debate: Are Branched/Fenestrated EVAR Procedures Better than Snorkels, Chimneys, or Periscopes in the Treatment of Most Thoracoabdominal and Juxtarenal Aneurysms?

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INTRODUCTION

Vascular surgeons are an innovative group and during the last decade we have seen unparalleled advances in the endovascular treatment of extensive aortic pathologies. Collaborative efforts between surgeons and industry have introduced fenestrated and branched devices which are becoming more widely used with wider regulatory approval, wider availability, and less need for customization. Prior to this, parallel stent approaches had been developed to fill the void where this technology was not available or for urgent cases. A separate and distinct body of evidence and expertise subsequently developed for both strategies. This debate explores where these approaches now sit in the armamentarium of vascular surgeons.

Part One: For the Motion. Branched/Fenestrated EVAR Procedures are Better than Snorkels, Chimneys, or Periscopes in the Treatment of Most Thoracoabdominal and Juxtarenal Aneurysms

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INTRODUCTION

The use of complex endovascular repairs to treat aneurysms involving the visceral vessels has increased in popularity in the last 10 years. A variety of methods of branch vessel incorporation have been described that can be broadly characterized as fusing of devices (i.e., branched or fenestrated repairs) or layering of devices (i.e., chimney or sandwich repairs [chimneys, periscopes, snorkels {CHIMPS}]). In the following sections, we will analyze the literature evaluating fenestrated, branched, and CHIMPS repairs. We have separated the analysis of juxtarenal (JAA) and pararenal (PAA) aortic aneurysms from the analysis of thoracoabdominal aortic aneurysms (TAAA), as the clinical heterogeneity between these two groups is too great for comparison.

PAA AND JAA

The chimney technique was first described in 2003 by Greenberg et al., and was intended as a technique to raise the sealing zone while ensuring renal artery patency in patients with “short neck” infrarenal aneurysms when no other options were available. It was later proposed by Hiramoto et al. as a rescue procedure after accidental renal coverage during endovascular aneurysm repair (EVAR). Since its original description, this technique has widely spread as an option for JAA and PAA endovascular repairs, in situations where fenestrated EVAR (FEVAR) would cause