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Cardiovascular Endocrinology**FRI152****Outcome Data From FABULAS: A Feasibility Study Of Radiofrequency Endoscopic Ablation, With Ultrasound Guidance, As A Non-surgical, Adrenal Sparing Treatment For Aldosterone Producing Adenomas****Giulia Argentesi, BMBS, MSc, MRCP¹,***Xilin Wu, MRCP(London)¹, Emily Goodchild, BMBS, BSc¹,**Yun-ni Lee, MB, BCh, BAO, MRCP¹, Kate Laycock, MBBS¹,**Ney Alexander, MD², Russell Senanayake, MSc, MRCP(UK)³,**James MacFarlane, MRCP(UK)³,**Elena Daniela Benu, Clinical Trial Practitioner⁴,**George Goodchild, MRCP⁴, Patrick Wilson, MRCP⁴,**Edmund M. Godfrey, MA, MRCS, FRCR³,**Mark Gurnell, MBBS, MA (Med Ed), PhD, FRCP⁵,**Heok Cheow, FRCR³,**Stephen P. Pereira, MBBS, PhD, FRCP, FRCPE²,**William Drake, DM, MRCP⁶,**and Morris Jonathan Brown, MD, FRCP¹*¹Queen Mary University of London, London, United Kingdom;²University College London Hospital, London, United Kingdom;³Addenbrooke's Hospital, Cambridge, United Kingdom; ⁴BartsHealth NHS Trust, London, United Kingdom; ⁵University of

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Primary aldosteronism (PA) is the potentially curable cause of high-risk hypertension in 5-10% of unselected patients. Outcomes post total adrenalectomy, the standard treatment for unilateral aldosterone producing adenomas (APAs), are variable. Between 30-60% are cured (1), but prediction of outcome is unreliable, and some patients are reluctant to have an adrenalectomy. Endoscopic ultrasound (EUS)-guided radiofrequency ablation (RFA) is an alternative to surgery for epigastric malignancies but has rarely been attempted for adrenal lesions. Given the proximity of the left adrenal gland to the stomach, we conducted a multicentre pilot study of EUS-RFA for left-sided APAs, to determine the safety and efficacy of this adrenal sparing treatment. 29 patients were recruited with confirmed unilateral (or dominantly asymmetrical) left sided APAs confirmed by either standard AVS or molecular imaging (11C-Metomidate or 18F CETO PET scan) with SUV max lateralisation ratios >1.25(2). Patients had an average age of 56 years and either comorbidities dictating surgical caution or had declined surgery (personal preference). 35

ablations were performed across 3 centres in 28 patients (22 Male and 6 Female) with 7 patients having a repeat procedure following careful consideration from a multidisciplinary panel. All patients underwent alpha and beta blockade 2 weeks prior to procedure, an anaesthetist was present at all procedures, with 31 undergoing general anaesthesia and 4 deep sedation only. A 5/10 mm 19G StarMed™ probe was introduced transgastrically by EUS into functioning adrenal nodules that ranged in size from 9-36 mm. An electrode/grounding pad was placed on all patients and energy generated at 15-30 watts to perform ablation. FNA samples were taken prior to ablation for immunocytochemistry to confirm (retrospectively) that CYP11B2 positive cells were the target and for further genotyping. Follow-up molecular imaging was used to assess completeness of ablation. The primary outcome was safety of procedure: to establish that rare events such as perforation, haemorrhage and infarction of major organs did not occur within the first 48 hours (assessed by examination, blood counts and CT abdomen). All adverse events, 5 in total, were reported and scored in severity by the team and reviewed by an independent safety committee. The conclusion of the committee was that EUS-RFA is a safe alternative to adrenalectomy for left-sided APAs. The secondary outcomes included the analyses of complete, partial or absent clinical and biochemical outcomes as determined by PASO criteria recorded at 1,3 and 6 months post-procedure. Data lock is at the end of January 2023; several patients have achieved complete PASO clinical success. Full primary and secondary outcomes, together with pre-and post-molecular imaging data, will be reported.1.Funder.The Management of PA.JCEM2016.2.Nature Medicine, in press.

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