

# **Fenestrated Endovascular Aneurysm Repair (FEVAR) for Juxtarenal Abdominal Aortic Aneurysms (AAAs): A Community Based Experience**

**Paul Bojrab<sup>1</sup>, Douglas Gray<sup>2</sup>, Kim Recht<sup>2</sup>**

<sup>1</sup>Indiana University School of Medicine, <sup>2</sup>Parkview Health, Parkview Physicians Group –  
Cardiovascular Surgery

## **Background and Hypothesis:**

Rupture of abdominal aortic aneurysms (AAAs) comprise an estimated 4-5% of all sudden deaths. Half of all patients with ruptured AAAs never make it to the hospital. Of those who make it and receive emergent surgery, the mortality rate is still near 50%. Improved screening protocols and diagnostics tools have enhanced detection, monitoring, and if needed, repair of AAAs before rupture. Due to anatomical constraints, juxtarenal AAAs cannot be repaired using standard endovascular endograft repair (EVAR). A newer fenestrated EVAR (FEVAR) must be performed; however, it carries a higher risk for complications. This study will assess the complication rates and outcomes following FEVAR for juxtarenal AAAs at Parkview Heart Institute (PHI). We hypothesize that incidence of renal artery occlusion, limb occlusion, and endoleak will be consistent with those published in the literature and that the occurrence of these adverse effects has a significant effect on patient outcomes.

## **Methods:**

The study is a retrospective review of the electronic medical records (EPIC) of PHI patients who underwent FEVAR for juxtarenal AAAs. Ruptured aneurysms and minors will be excluded. REDCap will be used for study data management. Patient demographics, medical history, hospital course, complication data, and follow-up visits will be analyzed. Analysis may include  $\chi^2$  test, Fisher exact test, Kaplan-Meier estimator, and two sample t-tests or the Mann-Whitney U tests.

## **Results:**

This project resulted in a protocol and REDCap data collection tool for IRB submission. The researchers are seeking Parkview Health IRB approval in Fall 2020, with an anticipated study start date of Spring 2021.

## **Potential Impact:**

This project will add to the current research on reintervention, complication, and mortality rates for FEVAR for juxtarenal AAAs. Directions for future research include refining indications for FEVAR and evaluation of long-term outcomes compared to open repair.