

duration was longer for EVAR+H (2.6 hours vs 3.7 hours; $P < .001$), but length of stay did not differ (6.8 ± 23.36 [EVAR] vs 4.6 ± 2.22 [EVAR+H] days; $P = .693$). Survival was greater ($P = .016$) in the EVAR+H group at 1 (94% vs 88%), 3 (85% vs 70%), 5 (64% vs 50%), and 10 years (49% vs 16%). Freedom from aneurysm-related mortality was similar at 13 years (99% EVAR+H vs 98% EVAR; $P = .9202$). Freedom from endoleaks was similar at 10 years (74% EVAR vs 69% EVAR+H; $P = .211$) and comprised mostly of type II endoleaks (22% EVAR and 27% EVAR+H). Higher rates of freedom from secondary interventions at 10 years in the EVAR group did not reach significance (74% vs 59%; $P = .815$). The most common reason for reintervention was correction of endoleaks. Twenty-one EVAR patients (8.2%) underwent correction of an endoleak while 4 EVAR+H patients (4.9%) had an intervention for this reason. Reintervention for limb thrombosis occurred in 2% of EVAR patients and in 4.9% of EVAR+H patients ($P = .229$). Hypogastric branch patency was 93% at 10 years.

Conclusions: Hypogastric artery preservation can be performed safely in many patients allowing for preservation of pelvic flow in the setting of endovascular treatment of aortoiliac artery aneurysms. While the additional branch may increase operative times, it has no adverse effect on long-term outcomes.

Author Disclosures: M. Abbasi: Nothing to disclose; C. Brier: Nothing to disclose; M. Eagleton: Cook Medical: consulting fees (eg, advisory boards).

RS12.

Sustained Late Branch Patency and Low Incidence of Persistent Type Ia Endoleaks Following Snorkel/chimney EVAR Shown in the Updated PERICLES Registry



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Objectives: Early technical success and short-term durability of the snorkel/chimney technique (ch-EVAR) has been previously established. Controversy remains as to the development of type Ia gutter endoleaks and branch vessel patency. We sought to evaluate anatomic and device characteristics and its effects on long-term outcomes after ch-EVAR.

Methods: All clinical and radiographic data from patients receiving ch-EVAR between 2008 and 2014 in the PERICLES registry were updated and reviewed. Regression models were used to evaluate relevant anatomic and operative characteristics as factors influencing immediate technical success and early operative complications. Subset analysis in patients who reached at least 2.5 years of follow-up was performed to determine long-term branch patency

and development of late or persistent type IA endoleak (T1a EL).

Results: Of the initial 517 patients in the PERICLES registry, 244 patients were included in this long-term outcomes analysis with a mean follow-up time of 46.7 months. A total of 387 chimney grafts were placed (335 renals, 42 SMAs, 10 celiacs) with a technical success rate of 88.9% and a perioperative complication rate of 6.1%. Chimney graft occlusion occurred in 10.2% of patients ($n = 24$), with an estimated branch patency of 95.8%, 94.8%, and 92.4% at 12, 24, and 48 months, respectively (Fig). Late or persistent T1a EL occurred in 5.9% of patients ($n = 14$). Early technical success was independently associated with larger initial AAA diameter (OR, 0.97; 95% CI, 0.96-0.99) and longer native infrarenal neck length (OR, 1.09; 95% CI, 1.01-1.19). No anatomic, operative, or device-related variables were found to be independently associated with long-term chimney graft patency. Persistent/late T1a EL was found to be independently associated with larger native neck diameter >30 mm (OR, 4.86; 95% CI, 1.42-16.59), while complete absence of a native infrarenal neck trended toward greater risk of late T1a EL (OR, 2.61; 95% CI 0.86-0.89). Total number of chimney grafts utilized was not associated with development of late T1a EL ($P = .62$). Overall survival of the entire cohort is also shown in the Fig.

Conclusions: In this update of the largest worldwide registry of ch-EVAR, early technical success was positively influenced by longer native infrarenal neck length and smaller AAA sac size. Long-term chimney branch patency continues to be $> 92\%$ out to 48 months and was not associated with anatomic or technical factors. Persistent/late proximal gutter endoleaks occur more frequently when patients with a larger neck diameter >30 mm or the complete absence of any infrarenal neck underwent repair, highlighting the importance of choosing the appropriate patient and anatomy for the ch-EVAR approach.

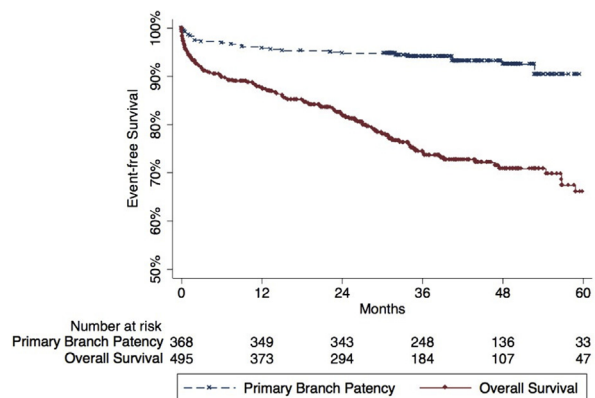


Fig.

Author Disclosures: R. Dalman: Nothing to disclose; K. P. Donas: Nothing to disclose; M. Lachat: Nothing to disclose; J. T. Lee: Nothing to disclose; F. Pecoraro: Nothing to disclose; G. Torsello: Nothing to disclose; K. Tran: Nothing to disclose; F. J. Veith: Nothing to disclose.