connection [figure 1(c), figure 2] allowing for subsequent navigation and complete treatment of the fistula through IPS [figure 1(d)].

Results Using simultaneous contrast injection from ICA and IJV revealed the arteriovenous connection allowing for navigation and complete treatment of the fistula.

Conclusion Many techniques are described to overcome hurdles of anatomical variations, tortuosity, and/or difficult visualization of IPS. Using above mentioned technique is comparatively simple and saves an operator prolonged time and complexity of approach.

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E-098 ENDOVASCULAR TREATMENT OF RUPTURED ANTERIOR COMMUNICATING ANEURYSMS: A 17-YEAR INSTITUTIONAL EXPERIENCE

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Background Ruptured anterior communicating artery (ACoA) aneurysms can be technically challenging to treat via an endovascular procedure. The objective of the current study is to analyze ruptured ACoA aneurysms that were treated via endovascular coiling for retreatment rates, as well as neurological outcomes.

Abstract E-098 Table 1 Demographic and clinical characteristic of patients who underwent endovascular treatment of ruptured ACoA Aneurysms, 2003–2019

Variable	Patients with Variable	N (%) or mean (SD)
Age (yr), mean (SD)	186	
Hunt-Hess grade	186	
1		17 (9.1)
2		73 (39.2)
3		59 (31.7)
4		25 (13.4)
5		12 (6.5)
Aneurysm dome size (mm)	186	5.74 (2.38)
Aneurysm neck size (mm)	143	2.74 (0.95)
Dome/Neck ratio	143	2.33 (1.43)
Complex morphology	186	54 (29.0)
Anterior projecting dome	186	121 (65.1)
Superior projecting dome	186	71 (38.2)
Treatment	185*	
Coiling only		128 (68.8)
Balloon-assisted coiling		53 (28.5)
Stent-assisted coiling		5 (2.7)
Initial Raymond Class	186	
I		121 (65.1)
II		53 (28.5)
III		12 (6.5)
mRS at discharge	186	3.5±1.4
mRS at follow-up	186	2.7±2.0
Mortality	186	19 (10)

*One patient with treatment did not have an operative note to definitively ascertain whether a balloon was used during the procedure.

Abstract E-098 Table 2 Characteristics of patients with and without retreatment for ruptured ACoA Aneurysms

Variable	No Retreatment (N=168)	Retreatment (N=18)	P Value
Follow-up months, mean ± SD	22.4 ± 39.8	63.1 ± 55.5	< 0.001
Age, mean ± SD	57.4 ± 12.5	49.5 ± 15.0	0.014
Tobacco smoker, N (%)	88 (52.4)	13 (72.2)	0.10
Hunt Hess grade, mean ± SD	2.7 ± 1.0	2.3 ± 0.7	0.028
Fisher grade, mean ± SD	3.4 ± 0.7	2.9 ± 1.1	0.008
Aneurysm dome size, mean ± SD	5.6 ± 2.4	6.9 ± 2.1	0.037
Aneurysm neck size, mean ± SD	2.7 ± 0.9	3.2 ± 0.9	0.046
Dome/Neck ratio	2.4 ± 1.5	2.1 ± 0.6	0.55
Complex morphology	49 (29.2)	5 (27.8)	0.90
Anterior projecting dome	110 (65.5)	11 (61.1)	0.71
Superior projecting dome	64 (38.1)	7 (38.9)	0.95
Treatment approach, N (%)			0.79
Coil embo	114 (67.9)	13 (72.2)	
Balloon-assist	49 (29.2)	4 (22.2)	
Stent-assist	4 (2.4)	1 (5.6)	
Index Raymond Class, N (%)			< 0.001
I	118 (70.2)	3 (16.7)	
II	45 (26.8)	8 (44.4)	
III	5 (3.0)	7 (38.9)	
mRS at discharge, mean (SD)	3.6 ± 1.4	2.8 ± 1.5	0.033
mRS at follow-up, mean (SD)	2.8 ± 2.0	1.9 ± 1.9	0.09

Methods All patients with a rupture ACoA aneurysm treated with endovascular coiling from 2003 to 2019 were retrospectively analyzed at a single center. Two separate comparisons were performed: no retreatment versus retreatment, as well as, coil-embolization versus balloon-assist coil-embolization. Outcomes include retreatment and neurological outcome via modified Rankin Scale (mRS).

Results During the study period, 186 patients with a ruptured ACoA aneurysm underwent coil-embolization. Treatment included standard coil-embolization (68.3%, n=127), balloon-assisted coiling (28.5%, n=53), and stent-assisted embolization (2.7%, n=5). Angiographic outcomes recorded at time of treatment: class I (65.1%, n=121), class II (28.5%, n=53), class III (6.5%, n=12). There were no aneurysm re-ruptures after index procedure. The average mRS was 2.7 (SD 2.0) on last follow up with a mortality of 10% (N=19). Retreatment occurred in 9.7% (n=18). Patients retreated were younger with lower grade SAH and more favorable functional status at discharge. Aneurysm > 7 mm in size (N=36) were significantly more likely to be retreated for recurrence (22.2% vs. 6.7%, P=0.005). In this subgroup, patients treated with balloon-assistance (8%, 1/13) had lower rates of retreatment compared to coiling only (29%, 6/21).

Conclusion Endovascular treatment of ruptured ACoA aneurysms is safe with low mortality rates. Larger aneurysm dome sizes are strongly associated with retreatment. However, for larger aneurysms the use of balloon assistance appears to minimize the risk of retreatment.

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