

On-line Table 1: Baseline characteristics and outcomes

Characteristic/Outcome	
No. of patients	<i>n</i> = 128
Sex	
Male	37 (28.9%)
Female	91 (71.1%)
Median age (range) (yr)	62 (16–84)
Multiple intracranial aneurysms	35 (27.3%)
Family history of aneurysm	21 (16.4%)
Smoking	
No	52 (40.6%)
Active	69 (53.9%)
Former	7 (5.5%)
Previous SAH	
No	111 (86.7%)
≤2 wk	8 (6.3%)
>2 wk	9 (7%)
Pretreatment mRS	
0	95 (74.2%)
1–2	28 (21.9%)
3–5	5 (3.9%)
Treated aneurysm baseline characteristics	<i>n</i> = 128
Maximal diameter (median) (range) (mm)	6 (2.2–21.4)
<7	98 (76.6%)
7–9.9	19 (14.8%)
10–19.9	11 (8.6%)
Aneurysm neck size (median) (range) (mm)	3.9 (2–14)
Wide-neck aneurysms based on neck size > 4 mm	63 (49.2%)
Dome-to-neck ratio (median) (range)	1.6 (0.6–5)
Wide-neck aneurysms based on dome-to-neck ratio <2	103 (80.5%)
Aneurysm location	
Basilar artery (apex)	37 (28.9%)
Anterior communicating artery	35 (27.3%)
MCA (<i>n</i> = 16, bifurcation; <i>n</i> = 21, M1; <i>n</i> = 1, M3)	19 (14.8%)
Internal carotid artery (terminus)	9 (7%)
Supraclinoid internal carotid artery (OphA, SHA, AcomA)	
Posterior communicating artery	6 (4.7%)
Anterior cerebral artery (beyond AcomA)	5 (3.9%)
Vertebrobasilar junction	4 (3.1%)
Posterior inferior cerebellar artery	2 (1.6%)
Superior cerebellar artery	2 (1.6%)
Posterior cerebral artery	1 (0.8%)
Treatment decision for Atlas stent	
Wide aneurysm neck	98 (76.6%)
Failed previous treatment	27 (21%)
Coiling	23 (85.2%)
Clipping	4 (14.8%)
Salvage after coil prolapse/migration	3 (2.4%)
Procedural details	<i>n</i> = 128
No. of Atlas stents placed	
1	118 (92.2%)
2	10 (7.8%)
P2Y12 testing performed before the procedure	86 (67.2%)
Use of same microcatheter for coiling and stent placement	76 (59.4%)
Single-stent procedures	<i>n</i> = 118
Coil deployment first	16 (13.6%)
Stent deployment first	102 (86.4%)

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On-line Table 1: Continued

Characteristic/Outcome	
Stent size, first stent	<i>n</i> = 128
3 × 15	23 (18%)
3 × 21	32 (25%)
3 × 24	33 (25.9%)
4 × 21	11 (8.6%)
4 × 24	14 (10.9%)
4.5 × 21	10 (7.8%)
4.5 × 30	5 (3.8%)
Stent size, second stent	<i>n</i> = 10
3 × 21	3 (30%)
3 × 24	2 (20%)
4 × 21	2 (20%)
4 × 24	3 (30%)
Parent vessel size (median) (range) (mm)	<i>n</i> = 101
Proximal	2.75 (1.1–4.7)
Mid	2.51 (1–6)
Distal	2 (0.7–4.2)
Periprocedural antiplatelet drug	<i>n</i> = 128
ASA, 325 mg, + clopidogrel, 75 mg	107 (83.6%)
ASA, 81 mg, + clopidogrel, 75 mg	6 (4.7%)
ASA, 81 mg, + clopidogrel, 37.5 mg	2 (1.6%)
ASA, 81 mg, + ticagrelor, 180 mg	5 (3.9%)
Clopidogrel, 75 mg alone	4 (3.1%)
ASA, 325 mg alone	4 (3.1%)
Technical complication during Atlas stent deployment	6 (4.7%)/ <i>n</i> = 128
Stent detachment/deployment failure	3
Failure of re-probing stent with coiling catheter, Pipeline device (Medtronic) placed over Atlas stent	1
Stent migration after deployment	1
Coil protrusion through stent	1
Thromboembolic complications	6 (4.7%) <i>n</i> = 128
Symptomatic	3
Timing	
Perioperative	6
Postoperative	0
Hemorrhagic complications	2 (1.6%) <i>n</i> = 128
Symptomatic	1
Timing	
Perioperative	1
Postoperative	1
Retreatment needed after Atlas stent coiling	<i>n</i> = 128
Aneurysm re-rupture and adding coils	1 (0.8%)
Imaging/clinical follow-up	<i>n</i> = 128
Follow-up (median) (range) (mo)	3.6 (3–8.3)
RROC, Immediate	<i>n</i> = 123
I	54 (43.9%)
II	48 (39.0%)
IIIa	11 (8.9%)
IIIb	10 (8.1%)
RROC, last follow-up	<i>n</i> = 38
Follow-up (median) (range) (mo)	3.6 (3–8.3)
I	29 (76.3%)
II	5 (13.2%)
IIIa	3 (7.9%)
IIIb	1 (2.6%)
mRS, last follow-up	<i>n</i> = 128
0	105 (82.1%)
1–2	19 (14.8%)
3–5	3 (2.3%)
6	1 (0.8%)

Note:—OphA indicates ophthalmic artery; SHA, superior hypophyseal artery; ASA, aspirin.

On-line Table 2: Comparison of baseline characteristics and outcomes to previous studies

	Study Design	No. of Aneurysms	No of Stents (Stents per Aneurysm)	Female (%)	Mean or Median Age (yr)	Initial RROC			mRS 0–2 at Discharge (%)		mRS 0–2 at Last Follow-Up (%)		Retreatment (%)
						% Class I, % Class II, % Class III	1-Year/LFU RROC (% Class I, % Class II, % Class III)	1-Year/LFU RROC (% Class I, % Class II, % Class III)					
Caragliano et al ⁸ (2019)	Retrospective analysis of a prospectively maintained data base	113 (89 unruptured, 24 ruptured)	138 (1:2)	63.7	58 (range, 32–97)	88, 9, 3	82, 13, 5	100	96.5	0			
Tsai et al ¹² (2019)	Retrospective case series	58 (56 unruptured, 2 recently ruptured)	76 (1:3)	77.6	63.5 (IQR, 56–71)	70.7, 20.7, 8.6	–	100	–	–			
Cay et al ⁹ (2018)	Retrospective case series	55 (unruptured)	55 (1)	62.5	51 (range, 23–74)	94.1 (I + II at mean f/u of 7.8 months)	83.7, 9.3, 7.0	–	–	–	3.6		
Gross et al ⁶ (2019)	Retrospective case series	37 (unruptured)	Not reported	81	60 ± 11	57, 24, 19	92, 8, 0	–	–	–	0		
Ulfert et al ¹³ (2018)	Retrospective multicenter series	37 (35 unruptured, 2 ruptured)	37 (1)	66.7	56 (range, 19–75)	84, 16, 0	93, 7, 0	100	100	0			
Quintana et al ¹¹ (2019)	Retrospective case series	30 (unruptured)	34 (1:1)	53.3	62.3 (range, 46–84)	56.6, 40, 3.3	60, –, –	–	–	–	6.6		
Jankowitz et al ¹⁰ (2019)	Prospective multicenter single-arm trial (Atlas IDE)	30 (unruptured)	33 (1:1)	80	59.4 ± 11.8	60, 26.7, 10	92.6, 0, 7.4	100	100	0			
ten Brinck et al ¹ (2019)	Retrospective case series	27 (17 unruptured, 10 ruptured)	37 (1:4)	59.3	55 ± 12.5	63, 11.1, 25.9	53.8, 15.4, 30.7	–	–	–	84.6		
Current study	Retrospective multicenter series	128 (111 unruptured, 17 ruptured)	138 (1:1)	71.1	62 (range, 16–84)	43.9, 39, 17	76.3, 13.2, 10.5	–	–	–	96.9	0.8	

Note:—IQR indicates interquartile range; LFU, last follow-up; –, not available; f/u, follow-up.