

Supplemental Material

„ Therapy practice of vasospasm during endovascular stroke treatment (EVT)“

An International anonymous online survey for neurointerventionalists

Subgroup Analysis of survey respondents who treated >200 stroke patients

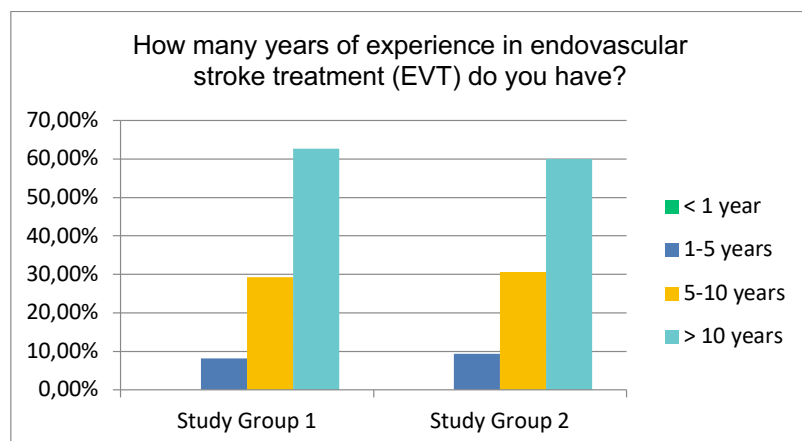
Study Groups according to the answer to Question 15 (Q15):

Study Group 1: considered vasospasm as a complication potentially influencing the patient's outcome

Study Group 2: did not consider vasospasm as a complication potentially influencing the patient's outcome

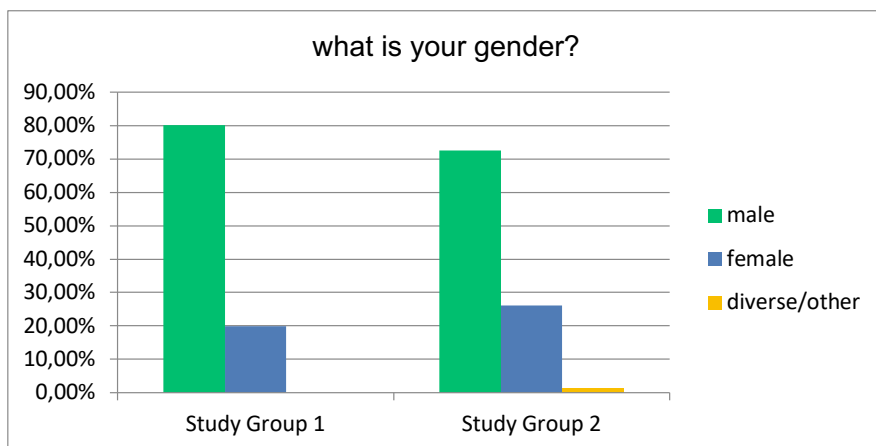
Q1: How many years of experience concerning endovascular stroke treatment do you have?

	< 1 year		1-5 years		5-10 years		> 10 years		Total	
Study Group 1	0,00%	0	8,13%	10	29,27%	36	62,60%	77	45,05%	123
Study Group 2	0,00%	0	9,33%	14	30,67%	46	60,00%	90	54,95%	150
Total	0,00%	0	8,79%	24	30,04%	82	61,17%	167	100,00%	273
									Answered	273
									Skipped	0



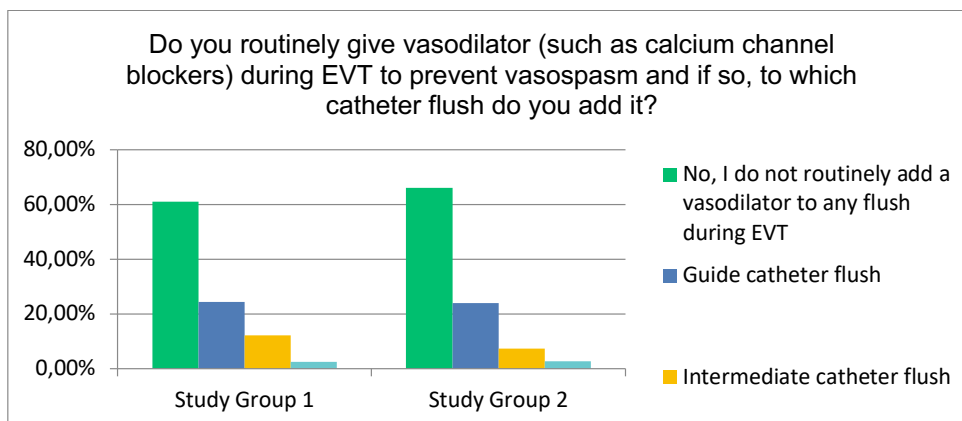
Q6: What is your gender?

	male		female		diverse/other		Total	
Study Group 1	80,17%	97	19,83%	24	0,00%	0	44,81%	121
Study Group 2	72,48%	108	26,17%	39	1,34%	2	55,19%	149
Total	75,93%	205	23,33%	63	0,74%	2	100,00%	270
							Answered	270
							Skipped	3



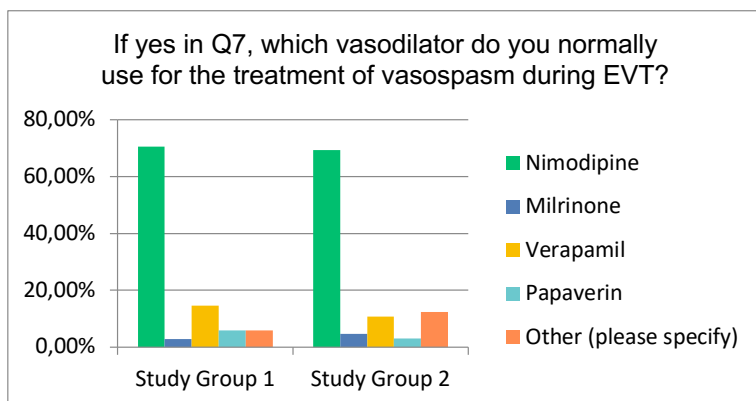
Q7: Do you routinely give vasodilator (such as calcium channel blockers) during EVT to prevent vasospasm and if so, to which catheter flush do you add it?

	No, I do not routinely add a vasodilator to any flush during EVT		Guide catheter flush		Intermediate catheter flush		Microcatheter flush		Total	
Study Group 1	60,98%	75	24,39%	30	12,20%	15	2,44%	3	45,05%	123
Study Group 2	66,00%	99	24,00%	36	7,33%	11	2,67%	4	54,95%	150
Total	63,74%	174	24,18%	66	9,52%	26	2,56%	7	100,00%	273
									Answered	273
									Skipped	0



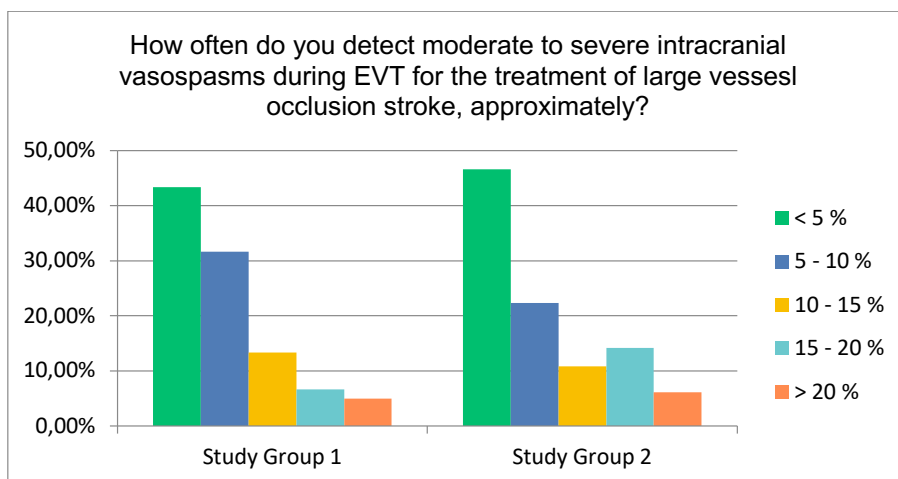
Q8: If yes in Q7, which vasodilator do you normally use for the treatment of vasospasm during EVT?

	Nimodipine		Milrinone		Verapamil		Papaverin		Other (please specify)		Total	
Study Group 1	70,59%	48	2,94%	2	14,71%	10	5,88%	4	5,88%	4	51,13%	68
Study Group 2	69,23%	45	4,62%	3	10,77%	7	3,08%	2	12,31%	8	48,87%	65
Total	69,92%	93	3,76%	5	12,78%	17	4,51%	6	9,02%	12	100,00%	133
											Answered	133
											Skipped	140



Q10: How often do you detect moderate to severe intracranial vasospasms during EVT for the treatment of large vessel occlusion stroke, approximately?

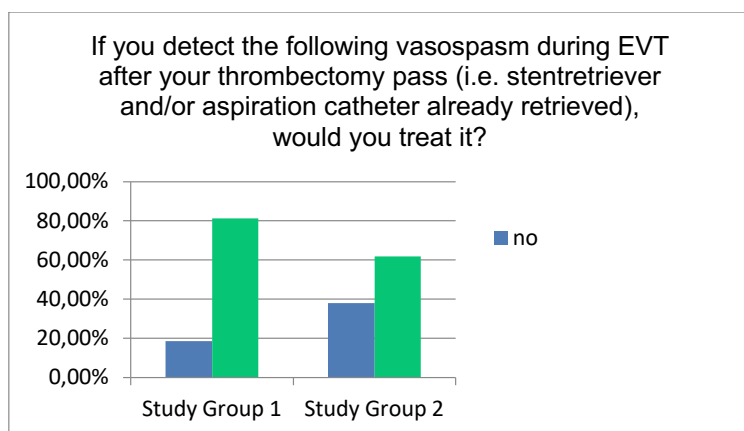
	< 5 %		5 - 10 %		10 - 15 %		15 - 20 %		> 20 %		Total	
Study Group 1	43,33%	52	31,67%	38	13,33%	16	6,67%	8	5,00%	6	44,78%	120
Study Group 2	46,62%	69	22,30%	33	10,81%	16	14,19%	21	6,08%	9	55,22%	148
Total	45,15%	121	26,49%	71	11,94%	32	10,82%	29	5,60%	15	100,00%	268
											Answered	268
											Skipped	5



Q11: If you detect the following vasospasm during EVT after your thrombectomy pass (i.e. stent retriever and/or aspiration catheter already retrieved), would you treat it?



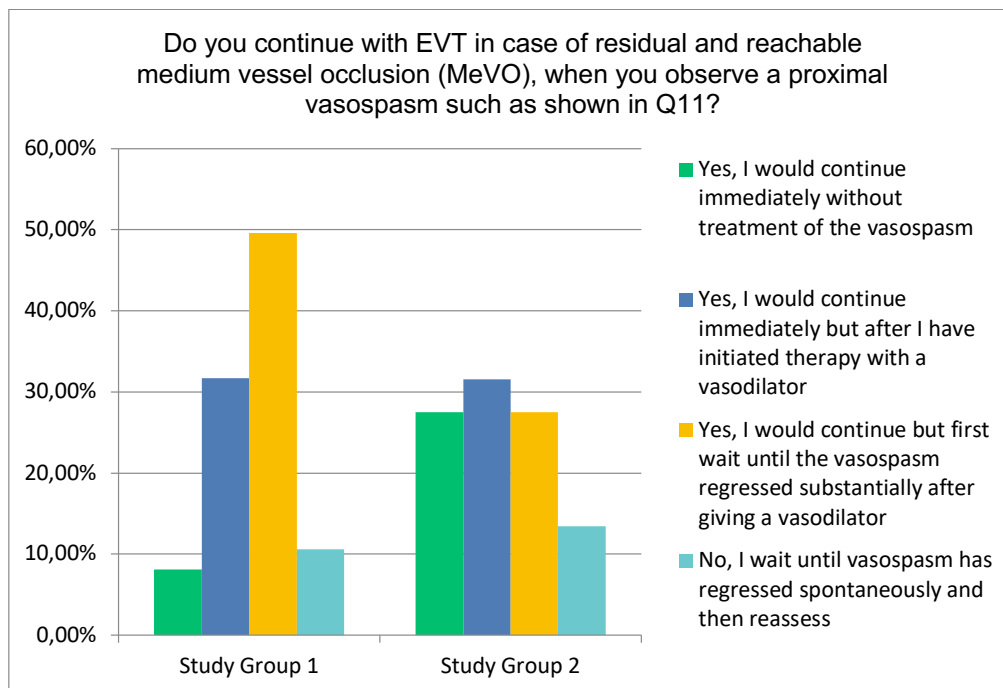
	no		if yes, how much milligram of which vasodilator would you give over how many minutes?		Total	
	%	n	%	n	%	n
Study Group 1	18,70%	23	81,30%	100	45,05%	123
Study Group 2	38,00%	57	62,00%	93	54,95%	150
Total	29,30%	80	70,70%	193	100,00%	273
					Answered	273
					Skipped	0



Q12: Do you continue with EVT in case of residual and reachable medium vessel occlusion (MeVO), when you observe a proximal vasospasm such as shown in Q11?

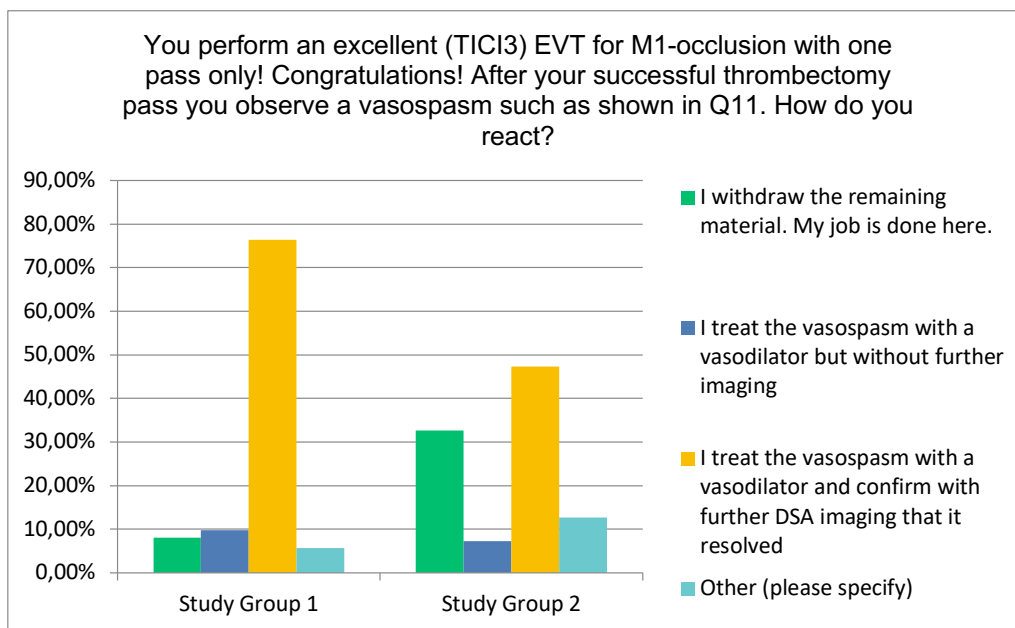
	Yes, I would continue immediately without treatment of the vasospasm		Yes, I would continue immediately but after I have initiated therapy with a vasodilator		Yes, I would continue but first wait until the vasospasm regressed substantially after giving a vasodilator		No, I wait until vasospasm has regressed spontaneously and then reassess		Total	
	%	n	%	n	%	n	%	n	%	n
Study Group 1	8,13%	10	31,71%	39	49,59%	61	10,57%	13	45,22%	123
Study Group 2	27,52%	41	31,54%	47	27,52%	41	13,42%	20	54,78%	149
Total	18,75%	51	31,62%	86	37,50%	102	12,13%	33	100,00%	272

									Answered	272
									Skipped	1

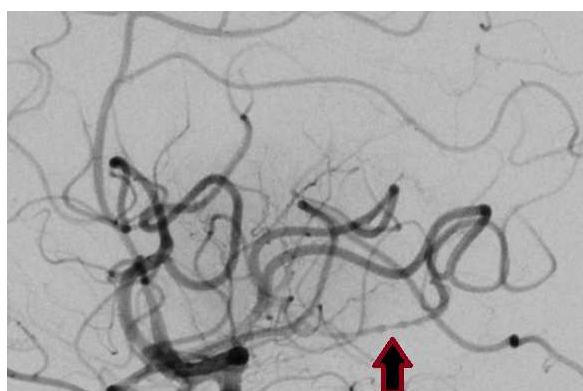


Q13: You perform an excellent (TICI 3) EVT for M1-occlusion with one pass only! Congratulations! After your successful thrombectomy pass you observe a vasospasm such as shown in Q11. How do you react?

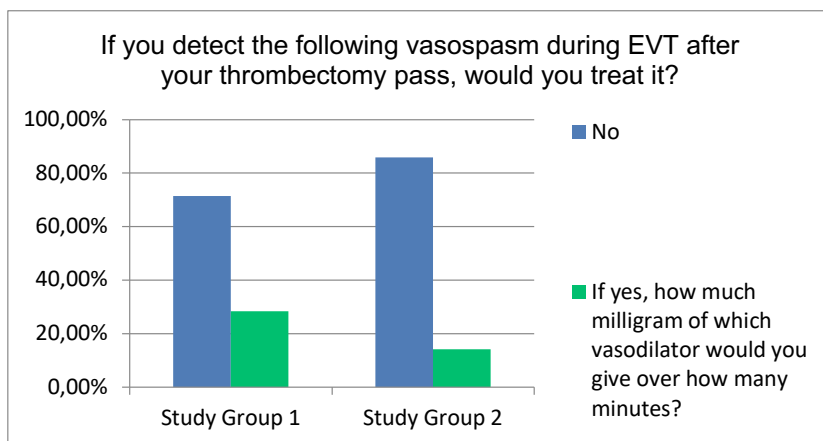
	I withdraw the remaining material. My job is done here.		I treat the vasospasm with a vasodilator but without further imaging		I treat the vasospasm with a vasodilator and confirm with further DSA imaging that it resolved		Other (please specify)		Total	
Study Group 1	8,13%	10	9,76%	12	76,42%	94	5,69%	7	45,05%	123
Study Group 2	32,67%	49	7,33%	11	47,33%	71	12,67%	19	54,95%	150
Total	21,61%	59	8,42%	23	60,44%	165	9,52%	26	100,00%	273
									Answered	273
									Skipped	0



Q14: If you detect the following vasospasm during EVT after your thrombectomy pass, would you treat it?

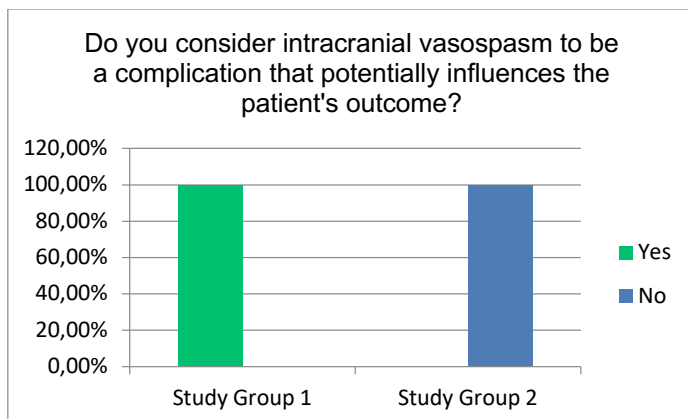
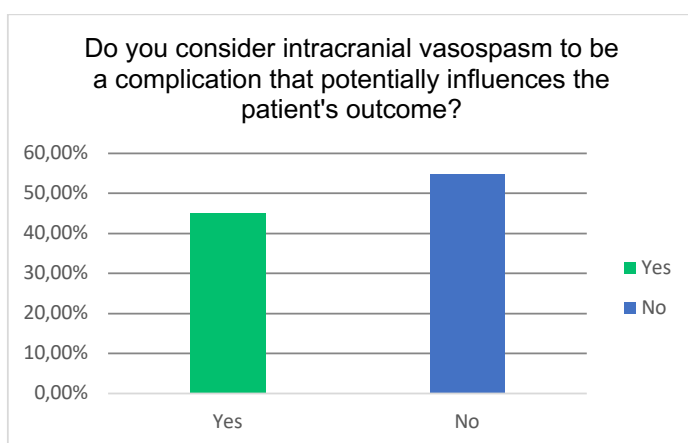


	No		If yes, how much milligram of which vasodilator would you give over how many minutes?		Total	
	%	n	%	n	%	n
Study Group 1	71,54%	88	28,46%	35	45,39%	123
Study Group 2	85,81%	127	14,19%	21	54,61%	148
Total	79,34%	215	20,66%	56	100,00%	271
					Answered	271
					Skipped	2

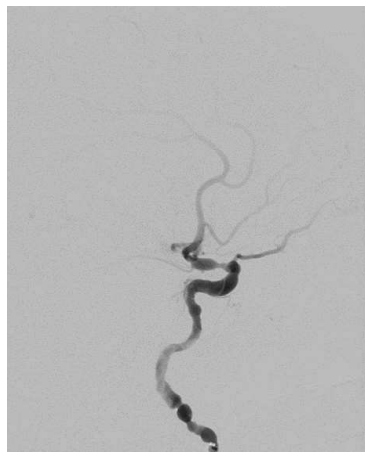


Q15: Do you consider intracranial vasospasm to be a complication that potentially influences the patient’s outcome?

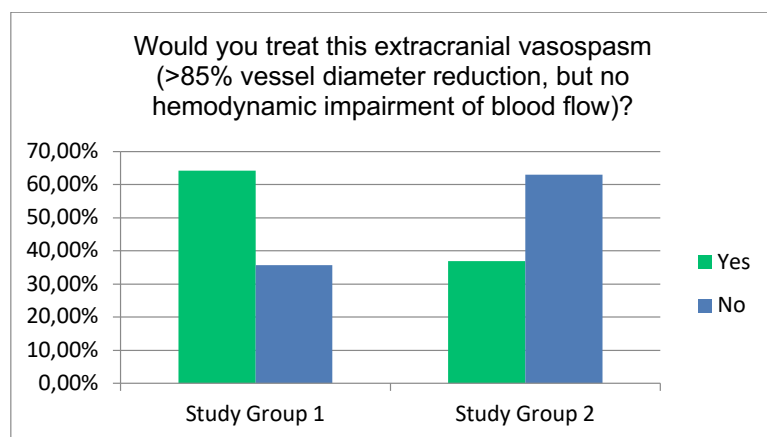
	Yes		No		Total	
Q15: Yes	100,00%	123	0,00%	0	45,05%	123
Q15: No	0,00%	0	100,00%	150	54,95%	150
Total	45,05%	123	54,95%	150	100,00%	273
					Answered	273
					Skipped	0



Q16: Would you treat this extracranial vasospasm (>85% vessel diameter reduction, but no hemodynamic impairment of blood flow)?



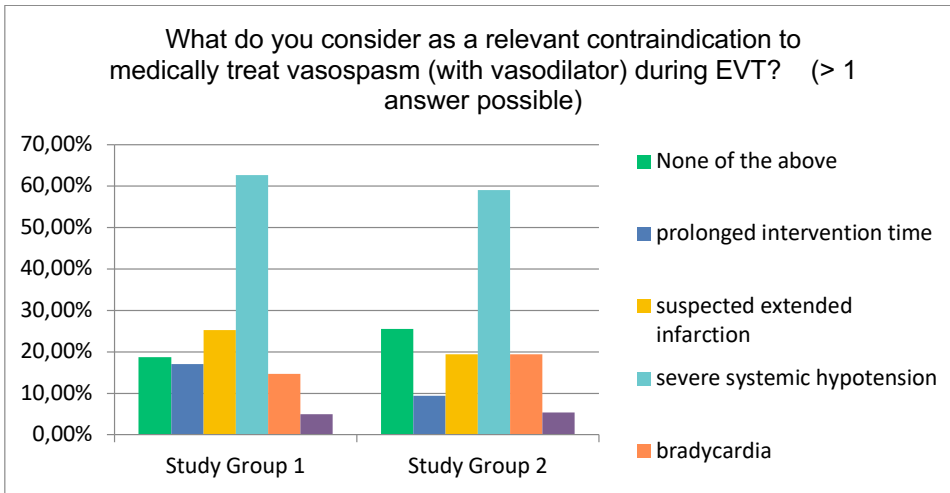
	Yes		No		Total	
	%	n	%	n	%	n
Study Group 1	64,23%	79	35,77%	44	45,22%	123
Study Group 2	36,91%	55	63,09%	94	54,78%	149
Total	49,26%	134	50,74%	138	100,00%	272
					Answered	272
					Skipped	1



Q17: What do you consider as a relevant contraindication to medically treat vasospasm (with vasodilator) during EVT? (>1 answer possible)

	None of the above		prolonged intervention time		suspected extended infarction		severe systemic hypotension		bradycardia		Other (please specify)		Total	
	%	n	%	n	%	n	%	n	%	n	%	n	%	n
Study Group 1	18,70%	23	17,07%	21	25,20%	31	62,60%	77	14,63%	18	4,88%	6	45,22%	123
Study Group 2	25,50%	38	9,40%	14	19,46%	29	59,06%	88	19,46%	29	5,37%	8	54,78%	149
Total	22,43%	61	12,87%	35	22,06%	60	60,66%	165	17,28%	47	5,15%	14	100,00%	272

																	Answered	272
																	Skipped	1



Q18: Does a standard operating procedure (SOP) exist at your facility on treating vasospasm during EVT?

	Yes		No		Total	
Study Group 1	35,77%	44	64,23%	79	45,22%	123
Study Group 2	14,09%	21	85,91%	128	54,78%	149
Total	23,90%	65	76,10%	207	100,00%	272
					Answered	272
					Skipped	1

