25944 - POSTPROCEDURE PAIN MANAGEMENT IN PATIENTS FOLLOWING TREATMENT FOR INTRACRANIAL ANEURYSM

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INTRODUCTION: Endovascular treatment (coiling) is increasingly being used for the management of intracranial aneurysms. There is limited information regarding the severity of post-procedure pain in patients treated by endovascular means. The purpose of this study was to assess and compare the level of pain and the effectiveness of our treatment of patients undergoing endovascular therapy (E) compared to craniotomy (C) for intracranial aneurysm.

METHODS: With IRB approval, all patients undergoing treatment of intracranial aneurysm were prospectively followed. The severity of pre- and post-procedure pain was assessed with a verbal questionnaire and scored with 0 (no pain) to 10 (worse pain). The total amount of opioids administered was calculated as morphine equivalents.

Assessments were at 5 min, 1h, 4h, 24h and 48h after procedure. Satisfaction scores for management of pain were assessed post procedure at 24h, 48h and discharge time and scored as 0=satisfied, 1=could be better, 2=terrible. Statistical analysis was with t-test and chi-square test. P value < 0.05 was considered significant.

RESULTS: 113 intracranial aneurysmal patients were included (E, n=46; C, n=67). Mean age($\pm$ SD) was 52 $\pm$ 12 vs 53 $\pm$ 10 yr; weight 72 $\pm$ 19 vs 73 $\pm$ 17 kg.; pre-op GCS 15(10-15) vs 15(10-15) for E and C, respectively. There was a difference in number of patients with subarachnoid hemorrhage between E and C (39% vs 66%). Post-procedure pain medication included codeine, fentanyl and morphine. Pain scores and analgesic requirements are in table. There were no differences in mean satisfaction scores; (E vs C) 0.05 $\pm$ 0.2 vs 0.15 $\pm$ 0.4, 0.08 $\pm$ 0.3 vs 0.15 $\pm$ 0.4 and 0.0 $\pm$ 0.0 vs 0.07 $\pm$ 0.3 at 24h, 48h and discharge, respectively.

Treatment	Pain Scores			Analgesia							
	Pre-	5min	1h	4h	24h	48h		1h	4h	24h	48h
Endovascular		3.2 $\pm$ 3.6		1.8 $\pm$ 2.6		2.2 $\pm$ 2.4		3.3 $\pm$ 2.8		4.4 $\pm$ 2.1	
		4.4 $\pm$ 2.5	N(%)	10(22)	19(41)	22(48)	13(28)				
							A(mg)	5.4 $\pm$ 2.0		5.0 $\pm$ 2.9	
		16.9 $\pm$ 12.5	12.4 $\pm$ 5.4								
Craniotomy		4.6 $\pm$ 3.4*		3.2 $\pm$ 3.7*		4.1 $\pm$ 3.4*		5.3 $\pm$ 2.8*		5.6 $\pm$ 2.6*	
		5.0 $\pm$ 2.7	N(%)	27(40)*		47(70)*		55(82)*		39(62)	
							A(mg)	7.9 $\pm$ 4.2		8.8 $\pm$ 7.1*	
		16.7 $\pm$ 10.6	13.6 $\pm$ 8.6								

Values are mean $\pm$ SD; N = Number of patients, A = morphine equivalent analgesia given, * = P < 0.05 from group E

DISCUSSION: The higher score for pre-procedure pain in the craniotomy group may be related to the higher incidence of subarachnoid hemorrhage. Patients following endovascular therapy had lower pain scores and required less analgesia than craniotomy

group during the first 24hr. Overall, most patients were satisfied with post-procedure pain management.

REFERENCE: Anesth Analg 1999; 88(2): 335-40.

Treatment	Pain Scores						Analgesia				
	Pre-	5min	1h	4h	24h	48h		1h	4h	24h	48h
Endovascular	3.2± 3.6	1.8± 2.6	2.2 ± 2.4	3.3 ± 2.8	4.4 ± 2.1	4.4 ± 2.5	N(%) 10(22)	19(41)	22(48)	13 (28)	
							A(mg) 5.4± 2.0	5.0± 2.9	16.9± 12.5	12.4± 5.4	
Craniotomy	4.6± 3.4 *	3.2± 3.7 *	4.1 ± 3.4 *	5.3 ± 2.8 *	5.6 ± 2.6 *	5.0 ± 2.7	N(%) 27(40) *	47(70) *	55(82) *	39 (62)	
							A(mg) 7.9± 4.2	8.8± 7.1*	16.7± 10.6	13.6± 8.6	

Values are mean± SD; N = Number of patients, A = morphine equivalent analgesia given,

* = P < 0.05 from group E

Figure #1: Before

During

After