



Can NK1 antagonists and COX-2 inhibitors improve same-day discharge rates following chemoembolization?



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Introduction

- Post-embolization syndrome (PES) includes symptoms of nausea, vomiting, and/or pain after hepatic embolization
- PES after bland embolization (TAE) and chemoembolization (TACE) of neuroendocrine liver metastasis (NET) and hepatocellular carcinoma (HCC) is common and results in overnight observation after 40% of procedures
- Recent NCCN/ASCO guidelines recommend neurokinin-1 antagonists (NK-1) after receiving emetogenic chemotherapy, but this is not standard of practice for hepatic embolization
- **Purpose** of this study was to determine if adding NK-1 antagonist and COX-2 inhibitor reduced post-procedural anti-emetic and narcotic use and improved same day discharge rates following TACE/TAE for NET and HCC

Materials & Methods

- IRB approved retrospective review of consecutive patients undergoing TACE/TAE for NET or HCC from January 2023 – August 2024.
- In Feb 2024, NK-1 antagonist fosprepitant 150 mg IV and COX-2 Inhibitor ketorolac 15-30 mg IV (**NK1/Cox2**) were added to standard medications of Dexamethasone 16mg IV, Ondansetron 8mg IV, diphenhydramine 50mg IV (**Std Med**)
- Percentage dose delivered via TACE, % liver volume embolized, % volume tumor burden in treated liver, and premedication utilization were collected
- Outcomes included any post-procedure use of anti-emetics and narcotics and rate of same day discharge
- Narcotic medication, route of administration, and doses were collected and converted to oral morphine milligram equivalent (OMME) for analysis

Results

- 250 patients with NET (97, 39%) or HCC (153, 61%) underwent TACE (215, 86%) or TAE (35, 14%)
- Mean (SD) TACE administration was 70 ± 29% of the maximum daily emulsion
- 119 (48%) underwent lobar embolization and 131 (52%) underwent segmental embolization
- All HCC patients and 76% of NET patients had a tumor burden < 25% in the treated liver
- 52 patients received premedication with NK1/Cox2 and 134 with standard premedication regimen
- 5/250 (2%) patients were planned admissions and excluded from the same day discharge analysis
- Patients premedicated with NK1/Cox2 regimen had a statistically increased rate of same day discharge compared to patients receiving standard premedication for all tumor types (73% versus 49%, p<0.05), including in subgroup analysis of the NET cohort (65% versus 41%, p<0.05) and the HCC cohort (89% versus 55%, p<0.05)

	N	Narcotics in recovery	Chi Square statistic	Anti-emetics in recovery	Chi Square statistic	Same day discharge*	Chi Square statistic
NET NK1/Cox2	33	19 (58%)	3.3559	13 (39%)	1.6436	21 (65%)	4.616
NET Std Meds	64	24 (38%)	P= 0.824	34 (53%)	P= 0.1998	26 (41%)	P=0.0316
HCC NK1/Cox2	19	6 (32%)	0.0491	3 (16%)	16.71	17 (89%)	9.07
HCC Std Meds	134	39 (29%)	P=0.824	53 (40%)	P=0.000044	71 (55%)	P=0.00260
Total NK1/Cox2	52	25 (48%)	4.772	16 (31%)	3.128	38 (73%)	9.619
Total Std Meds	198	63 (32%)	P=0.0289	87 (44%)	P=0.0769	97 (49%)	P=0.00193

*Excludes planned admissions

	N	OMME in recovery (mg, mean ± SD)	P-value
NET NK1/Cox2	33	32 ± 25	0.071
NET Std Meds	64	48 ± 34	
HCC NK1/Cox2	19	29 ± 30	0.779
HCC Std Meds	134	26 ± 28	
Total NK1/Cox2	52	31 ± 26	0.660
Total Std Meds	198	34 ± 32	

OMME = oral morphine milligram equivalent

Conclusions

- Premedication with an NK-1 antagonists and COX-2 inhibitors improved same day discharge for both NET and HCC patients undergoing TACE/TAE
- Use of NK-1 antagonist significantly reduced anti-emetic use in recovery for HCC patients, but not for NET patients
- Use of COX-2 inhibitors was not associated with decreased narcotic use in recovery