Periprocedural code status discussions for inpatients undergoing percutaneous gastrostomy tube placement

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Background

- Gastrostomy tube (G-tube) placement is a common procedure offered in patients with life limiting diseases.
- Given the nature of the underlying disease process, these patients may present for G-tube with a "Do-Not-Resuscitate" (DNR) order in place.
- Both the American Society of Anesthesiologists and the American College of Surgeons have published statements that encourage discussion of periprocedural risks in the setting of patient's values and preferences with an emphasis on communication, preservation of patient self-determination, and shared decision-making.
- Policies that automatically suspend or uphold DNR orders are generally discouraged.
- Despite this, there is inconsistency and confusion amongst medical professionals and patients regarding what happens to limitations on code status in the context of a procedure.
- This can be even more ambiguous for "minor" procedures or procedures that occur outside of the operating room such as G-tube placement.
- The goal of this study is to examine whether or not code status conversations are documented for inpatients undergoing G-tube placement and to explore the factors associated with the presence or absence of a documented conversation.

Methods

- Retrospective chart review was performed on all adult inpatients (n=254) undergoing G-tube placement at Maine Medical Center from May, 2016 through May, 2017.
- Primary outcome was presence of documented code status discussions for patients with code status other than "Full" at the time of their G-tube placement.
- Secondary outcomes were factors associated with having documentation of a code status discussion as well as mortality associated with inpatient G-tube placement.
- Patients < 18 years old were excluded.
- Demographics, admission diagnosis, and severity of illness score were abstracted via the electronic medical record (EMR) system at Maine Medical Center.
- Comorbid diagnoses, code status, characteristics of G-tube, and service characteristics were abstracted using a manual chart review.
- For patients with a code status other that "Full" at time of G-tube, progress and procedure related notes five days pre- and post-procedure were reviewed to determine if there was a documentation of code status discussion.
- If there was a conversation, the service who documented the discussion was noted.
- Mortality data was obtained from a combination of chart review and an internet search for obituary information.
- Data were analyzed using SAS v9.1 software

Results

Table 1. Characteristics of Patients (N=254)

Characteristic	Number	Percent
Age		
< 35	17	7
36-50	36	14
51-65	90	35
66-75	60	24
76-87	51	20
Sex		
Male	157	62
Female	97	38
Comorbidities		
Cardiovascular Disease	78	31
Pulmonary Disease	80	32
Malignancy	109	43
Renal Disease	29	11
Neurologic disease	57	22
Diabetes	51	20
Liver disease	6	2
History of ETOH or Illicit Drug use	22	9
Severity of Illness Score		
1	5	2
2	38	15
3	75	30
4	136	54

Table 2. Characteristics of Gastrostomy Tube (N=254)

Characteristics	Number	Percent
Service Performing G-tube		
Surgery	168	66
IR	12	5
GI	74	29
Type of G tube		
Bedside endoscopic	46	18
GI endoscopic	66	26
OR endoscopic	12	5
IR percutaneous	17	7
OR lap assisted	68	27
OR open	45	18
Indication for PEG		
Dysphagia/aspiration	59	23
Neurologic injury	46	18
Respiratory failure	21	8
ENT cancer	14	6
Obstruction	28	11
Routine as part of procedure	34	13
Nutrition/Other	52	21
Advanced airway in place during PEG	191	75
Tracheostomy and PEG		
Yes	31	12
No	194	76
Already had trach	29	11
Code Status at time of G tube		
Full	221	87
DNR	29	11
Tailored	4	2

Figure 1. Presence of code status discussion in patients with code status other than Full (N = 33)

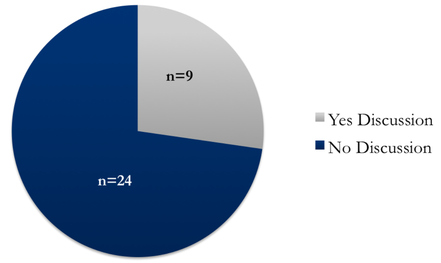


Table 3. Comparison between patients that were DNR at time of G-tube who had documented code status discussions versus those without documented conversations

	Had documented code status discussion (n=9) N (%)	No documented code status discussion (n=24) N (%)	p-value
Service Performing G-tube			0.1
Surgery	8 (89)	11 (46)	
IR	0 (0)	4 (17)	
GI	1 (11)	9 (38)	
Indication for PEG			0.85
Dysphagia/aspiration	3 (33)	6 (25)	
Neurologic injury	1 (11)	3 (13)	
Respiratory failure	0 (0)	2 (8)	
ENT cancer	0 (0)	1 (4)	
Obstruction	2 (22)	6 (25)	
Routine part of procedure	1 (11)	0 (0)	
Nutrition/Other	2 (22)	6 (25)	
Type of G tube			0.0551
Bedside endoscopic	1 (11)	3 (13)	
GI endoscopic	1 (11)	9 (38)	
OR endoscopic	6 (67)	5 (21)	
IR percutaneous	0 (0)	4 (17)	
OR lap assisted	0(0)	3(13)	
OR open	1(11)	0(0)	
Anesthesia Involved			0.0057
No	1 (11)	16 (67)	
Yes	8 (89)	8 (33)	

Figure 2. Team Documenting Conversation (n=9)

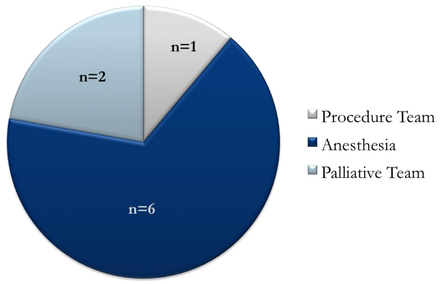
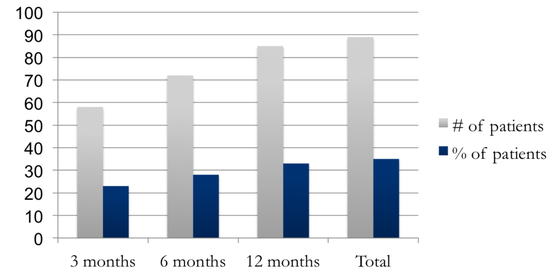


Figure1. Mortality of inpatients who underwent G-tube placement



Conclusions

- Of 254 adult inpatients who underwent G-tube placement from May 2016 through May 2017, 33 (13%) had code status other than "Full".
- Of those 33 patients, only 9 (27%) had code status discussion documented regarding the procedure.
  - Documentation was performed by:
    - 11% by the procedure team
    - 67% by the anesthesia team
    - 22% by the palliative medicine team
    - No conversations were documented by the primary team
- Patients for whom anesthesia was involved were significantly more likely to have a documented code status discussion (p=0.0057).
- Mortality was notably high in this population: overall 35% of the patients had died within 2-years; 3-month mortality was 23%.
- This study suggests that we need to improve our rate of documented code status discussions for patients who are not full code at the time of G-tube insertion.

Limitations

- Results are observational and causality cannot be concluded.
- Sample size of patients who had code status other than full at time of G-tube is small, n = 33.
- Results are based on retrospective chart review of electronic. medical record and thus conversations that were documented solely on paper were not accounted for.
- Results reflect only documented discussions. It is possible conversations occurred that were not documented.

Literature Cited

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