Patient-Associated Factors in Triggering Security STAT Code on the Medicine Floor

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Background

Healthcare workers face the risk of verbal and physical assault while at work. According to the Bureau of Labor Statistics, healthcare workers are more than three times more likely to experience an assault, leading to missing workdays compared with other fields [1]. In 2019, there were 52 reported deaths in the healthcare industry because of workplace violence [2].

Code greys are called whenever there is a safety concern anywhere in the hospital, including the ED, surgical, medical, and psychiatric floor. The reason for calling code greys varies: a patient may be violent towards staff members, attempting to leave even when one is in a critical medical condition, or family or friends of patients may be hindering medical care. On the medical floor, when a code grey occurs, CL psychiatrists are often consulted to evaluate and manage various situations, including agitation management and complex capacity assessment. If consultants and the healthcare staff members could predict the likelihood of violent incidence by knowing contributing factors to calling code greys, we would be better prepared to care for our patients and those around them.

There is very little data on code grey in the hospital and very scant data on comorbidities with violence. Some studies identify possible causes of agitation and violence, such as patient demographics, psychiatric diagnoses, substance withdrawal, dementia, and delirium, and rarely have numeric data regarding the strength of the correlation of the risk factors.

Derscheid et al 2021 used multivariate analysis to find predictive variables for physical aggression [3]. This study showed that delirium and dementia were associated with increased risk of physical aggression but were not predictive[3]. Older age, male gender, and verbal threats to others were variables associated with physical aggression, which were also predictive in the multivariate model [3]. They also reported decreased risk of physical aggression in the univariate model, which were alcohol withdrawal, anxiety, depression, suicidal ideation, disruption to the unit, 72-hour hold issues, wanted to leave the hospital, and wanted to smoke [3].

In our study, we gathered data from an academic hospital in an urban setting and broadened the patient characteristics. We explored the admitting diagnoses patients received, substance use, psychiatric medications given, and disposition, and looked if there is any factor that may have increased risk of unpredictable or violent behavior.

Method

Thirty-two code greys between August 2023 and January 2024 were identified at Lenox Hill Hospital. Two patients, during their respective admission, activated multiple code greys, and therefore there were 32 incidents but 25 patients. The patients' age, admitting diagnosis, reason for code grey, medications, discharge disposition, length of stay, and urine drug screen were analyzed to study trends and commonalities among this group.

Result

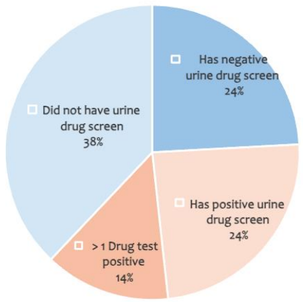

Fig 1. Urine Drug Screen

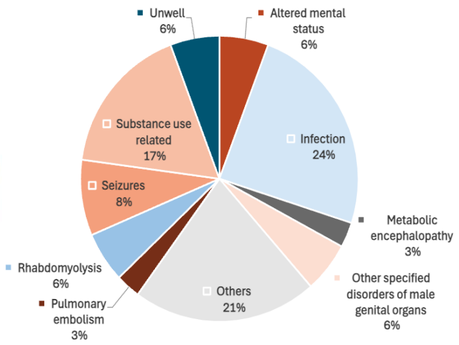

Fig 2. Diagnoses Patients Received

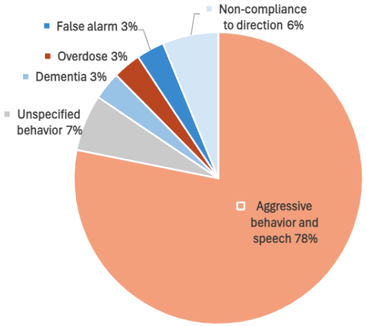

Fig 3. Reason for Code Gray

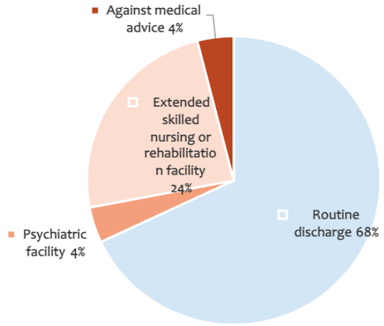

Fig 4. Disposition Upon Discharge

19/25 of patients (76% were on standing psychotropics, such as antipsychotics, antidepressants, and benzodiazepines. 14/25 patients had a urine drug screen (56%) and out of those who were tested, 7/14 of patients (50%) were positive for a urine drug screen, showing a variety of substances, including THC, benzodiazepines, cocaine, and fentanyl. Routine discharge for 17/25 (68%), psychiatric facility of 1/25 (4%), extended skilled nursing or rehab facility 6/25 (24%), 1/25 (4%) against medical advice.

Reasons for code greys were varied, including patient not complying (for example, COVID + walking in the hallway) 2/32 (8%), aggressive behavior and speech (25/32) (78%), unspecified behavior (2/32), dementia (1/32), overdose (1/32), and false alarm (1/32).

Each patient received multiple diagnoses. There are total of 70 diagnoses: infection (17), substance use related (12) metabolic encephalopathy (2), seizures (6), abnormal labs (1), iron deficiency anemia (1), bug bite (1), altered mental status (4), pulmonary embolism (2), asthma (1), pulmonary sarcoidosis (1), cough (1), dialysis (1), hypervolemia (1), fever (1), other elective surgery (1), diarrhea (1), chest pain (1), embolism and thrombosis of right iliac vein (1), multiple medical (1), other specified disorders of male genital organs (4), rhabdomyolysis (4), unwell (4), shortness of breath (1).

Discussion

We observed that the majority of the patients who had code greys were receiving psychotropic medications and among those who received the urine drug test, half of them were positive for a urine drug screen. Most of the patients were discharged home. 78% of the code grey was called because of aggressive behavior and speech. The most common diagnosis among patients who had code greys was infection (24%).

While the most common reason for calling code grey was agitation and aggression, the most common diagnoses patients who had code greys were infections, including sepsis, COVID-19, cellulitis, and urinary tract infection. This result implies that infectious processes may be a factor in agitation and aggression via various mechanisms, such as antibiotics causing cognitive and/or behavioral disturbances, metabolic encephalopathy from being critically ill, and discomfort that follows acute hospitalization.

However, according to Healthcare Cost and Utilization Project (HCUP) Statistical Briefs, septicemia was the most common principal diagnosis among nonmaternal, nonneonatal stays in 2018 [4]. Therefore, further statistical analysis is necessary to determine the correlation between diagnosis of infection and code greys.

The limitation is that the study population was small (32 code greys and 25 patients), and it would be important to follow up with a study that includes a bigger study population. It would also be important to know if patients receiving antipsychotics were receiving it as home medications or were newly started. Then we would be able to construe if being on psychotropic medication is a risk factor to calling code grey, or if they are usually prescribed to manage agitation and/or aggression when a code grey is called. We would also need to use statistical studies to assess relationships between variables with assault and physical aggression.

Conclusion

Code greys should be responded with utmost caution and support, as these incidents may put staff and patients in danger. From this study, we attempted to identify correlating factors to code grey so that clinicians and consulting psychiatrists may be more aware when a patient with such factors is present on the floor. Most of the codes were called because of aggressive behavior and speech. The most common diagnosis among patients who had code greys was infection. Among those who received the urine drug test, half of them were positive for a urine drug screen. The majority of the patients who had code greys received psychotropic medications. Most of the patients were discharged home. Further study should be performed to seek statistical significance by conducting a larger study.

References

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