OSUCHS Internal Medicine

Assessing the Appropriate Use of Cardiac Telemetry in Hospitalized Patients at OSU Medical Center

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INTRODUCTION

Continuous cardiac monitoring is an important and efficacious means of patient monitoring in the inpatient setting.

However, it is often overutilized leading to increased workload for nursing staff and physicians, decreased patient comfort, and unnecessary cost.

Overutilization of telemetry remains a problem even after implementation of specific guidelines. Currently, the telemetry order at OSUMC is to be reviewed, either for renewal or discontinuation, by a provider every 72 hours. Previous studies have emphasized the disservice associated with insufficient continuing education on the appropriate use of telemetry for healthcare workers. (1)

Another study showed that only 0.01% of all telemetry alarms were triggered due to a real emergency. This same study showed that only 37.2% of emergency alarms were clinically important.(2)

A study conducted previously, evaluated 226 patients and revealed that 147 of those patients were inappropriately on telemetry. This led to a monthly cost of approximately $38,000 for the hospital.(3)

OBJECTIVES

1. To evaluate and report the misuse of telemetry monitoring in hospitalized patients at OSU Medical Center.

2. To minimize the overuse of telemetry by ensuring that clear policies/indications are readily available for reference.

3. To emphasize the importance of ongoing education for physicians and patient care providers.

4. To bring awareness to the negative effects of unnecessary use of telemetry.

METHODS

- Retrospective analysis of all hospital admissions with orders for continuous cardiac monitoring from January 1—January 7, 2022 (123 hospital admissions).
- Primary data points included: reason for hospitalization/indication for telemetry and whether the order was reviewed by a provider within 72 hours or during transition to lower acuity unit.
- The current “Cardiac Telemetry Monitor” order at OSUMC (Figure 1) was referenced for data collection.

RESULTS

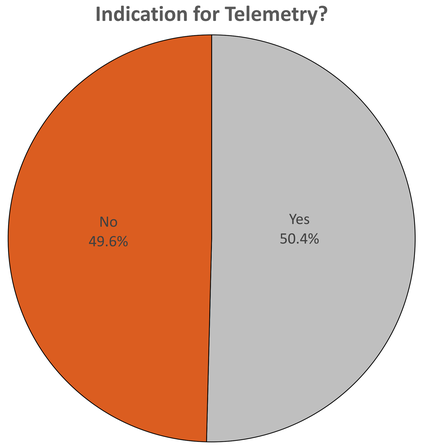
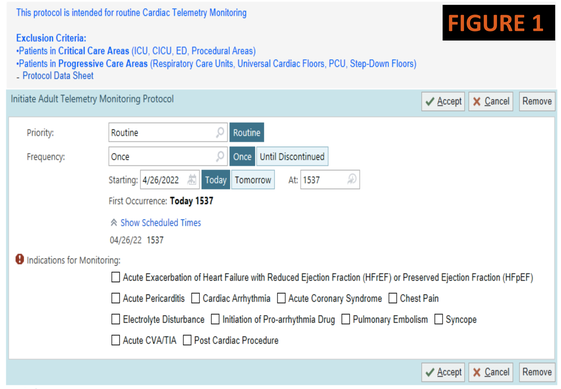


FIGURE 1



NEXT STEPS

In order to minimize the overuse of telemetry, OSUMC needs a set of guidelines that is simplified, concise, and readily available. While it is vital that our providers are aware of the indications for telemetry, it is equally as important to understand when it is not necessary. We created a set of guidelines based on recommendations from the American Heart Association(6) (Figure 2). Our goal is to have copies distributed throughout the hospital, particularly at nurses’ stations and doctors’ dictation areas. We are hopeful that, by making this information more easily accessible, our healthcare providers will become more familiar with the appropriate uses of telemetry.

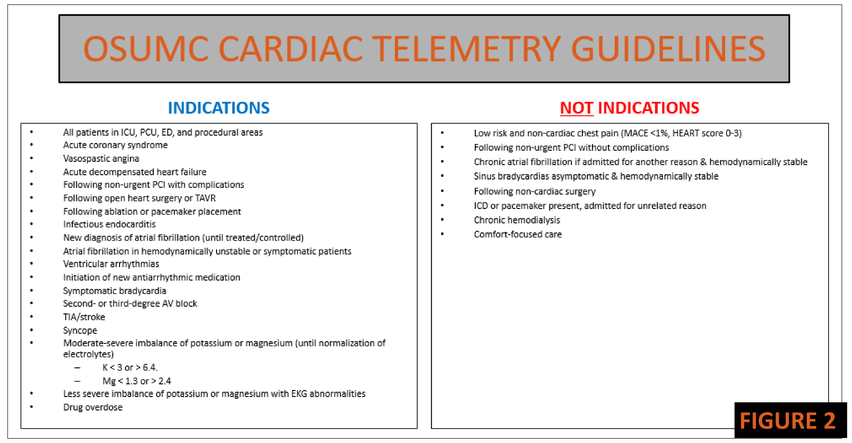


FIGURE 2

While not all-inclusive, these guidelines make the somewhat vague indications listed in Figure 1 clearer. The indications listed above are universal recommendations and classified Class 1 (“evidence and/or general agreement that [it] is beneficial, useful, effective”). The scenarios listed as “not indications” are considered Class 3, meaning they are not recommended and may cause harm. (7)

CONCLUSION

Our analysis revealed that approximately half (49.6%) of the patient's hospitalizations we analyzed had orders from continuous cardiac monitoring but did not have an appropriate indication for it.

During this 7-day timespan, 30.9% of patients who required reevaluation of their telemetry order were not reassessed, leading to inappropriate continuation.

Less than 10% of telemetry orders were discontinued prior to discharge, proving a gross deficiency in telemetry management from a provider standpoint.

Previous reports have shown an increase in overall cost of to be approximately $53 per day.(5)

Based on this data, and regarding the 61 patients in our analysis lacking an indication for telemetry, the unnecessary costs would exceed $3,233 per week.

Not only does this lead to monetary loss; it also leads to the staff members needing to constantly monitor telemetry and respond to events that, historically, have not shown to alter patient outcomes.

Based on our findings, we believe that there should be an adjustment to current protocols. These could include: changing the protocol for ordering telemetry, ancillary staff evaluating if telemetry is required, or automatic expiration of telemetry.

Studies have found success in implementing automatic telemetry order expiration after a certain duration of time, requiring providers to reassess its need.(6)

We believe that further evaluation of this is needed and will lead to reduced costs, decreased staff workload, and better patient outcomes.

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