



## FAILURE TO DIAGNOSE MYOCARDIAL INFARCTION

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### DESCRIPTION

A 77-year-old with a pre-op history of abnormal EKGs died in the PACU following a cholecystectomy.

### KEY LESSONS

- Following the specific policies and procedures for the transmission of critical results is crucial.
- Consistent electronic health record storage of test results is essential for safe care delivery.
- Surgical checklists offer a significant evidence-based improvement to safety.

### CLINICAL SEQUENCE

A 77-year-old male presented to the Emergency Department (ED) with a complaint of abdominal pain. An abdominal CT confirmed a diagnosis of gall bladder disease. Three months prior, the patient's EKG demonstrated aortic stenosis meeting criteria for aortic valve replacement. The patient was admitted to the ICU, with a plan for a cholecystectomy scheduled as an "add on" for the following day.

On the EKG performed in the ED there appeared an automated computer-generated interpretation of "abnormal, possible inferior MI." The emergency medicine physician had documented "EKG not indicated" and no additional cardiac studies were ordered at that time.

The general surgeon's admission orders included an additional EKG.

The following morning, the pre-op RN phoned the ICU, unable to locate the EKG in the patient's chart, requested an EKG be done prior to surgery. A respiratory therapist performed an EKG, in the presence of the patient's daughter (who was a nurse). The automated computer-generated interpretation for this EKG was, again, abnormal: "consider subendocardial injury." At this point there four EKG results were available in various locations of the patient's record.

Prior to induction of anesthesia, there was no physician review of any of the EKGs. The CRNA believed it was safe to proceed with anesthesia and did so. In the medical record documentation, the box on the pre-anesthesia work-up form, relative to EKG review, was left unchecked. The anesthesiologist became aware of the unchecked EKG box (incomplete pre-anesthesia checklist) after

## PATIENT SAFETY RESOURCES

induction of anesthesia but did not stop the surgery. The cholecystectomy proceeded uneventfully. The patient was extubated, had normal vital signs and a normal sinus rhythm, and was sent to the PACU. Shortly after his arrival, the patient suffered cardiac arrest and died.

### ALLEGATION

The patient's family alleged that the hospital and numerous providers were responsible for failing to review the patient's EKG history and identify the risk of myocardial infarction.

### DISPOSITION

The case was settled in excess of \$500,000.

### ANALYSIS

*All providers were criticized for not fully reading the patient's chart and for not having a firm grasp of the patient's comorbidities.*

While hybrid medical records may bear some responsibility for the pre-op EKG confusion, medical experts indicated that all four EKGs showed an acute MI.

One provider was criticized for not following the hospital procedure regarding immediately putting the (fourth) EKG in the hands of an RN or MD for interpretation. Respiratory Therapy instead placed copies of the report in the cardiology EKG in-basket, the EHR, and in the paper chart. The EHR copy did not appear until five minutes before anesthesia induction, which resulted in nursing not seeing this EKG. Instead, they reviewed (via another location) the EKG performed in the ED.

### CONTRIBUTING FACTORS

- Policy/protocol not followed
- Failure to appreciate and reconcile relevant sign/symptom/test results
- Communication among providers: failure to read medical record
- Clinician did not receive test results
- Insufficient/lack of documentation
- EHR-related user error
- Hybrid med rec/EHR conversion issues

