
Errors, Patient Safety and Risk Management in Emergency Medicine: Case Report

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Introduction:

Errors and adverse events in medicine are common in a complex environment such as the emergency department. There is a growing body of literature on medication errors and risk management. The annual reports of the MDU (Medical Defense Union) document numerous cases and claims against physicians. Recently, the Israeli journal MRM (Medical Risk Management) published "Cases Telling Stories". Many of these errors are preventable if the medical staff adheres to good medical practice attitude.

Reporting on errors and adverse events has been widely adapted by the industrial world making way for a safer environment. Hospitals lag behind. Physicians are reluctant to report on errors and adverse events, in part due to fear of punishment or legal claims. Underreporting is also related to the attribution of individual failure rather than system failure. Hospital management should build confidence and a culture of reporting without fear by adapting a non-punishing strategy. Accumulation of reports and correction of systemic problems must take precedence over punishing the person who reported on an error or an adverse event. Such a culture would slowly realize a positive change, and encourage physicians to report.

The editors of this new section of the Israeli Journal of Emergency Medicine urge emergency physicians to write and share their cases with their colleagues. Names of the authors, institutes and any other identifying signs will be withheld so as to maintain anonymity.

In this issue of The Journal we describe a case of misidentification of patients and blood tests reports in an Israeli ED, resulting in an avoidable treatment error.

MeSH Words: medical errors, risk management , emergency medicine, emergency department

Case Report

Patient A.S., aged 69 years, was brought to the ED at 13:57 because of abdominal pain. His past history included peptic disease treated 3 years prior with triple therapy, ischemic heart disease with heart failure, and chronic atrial fibrillation. He was on chronic coumadin therapy. A.S. was first examined by a senior resident in surgery.

Blood tests including INR and chest and plain abdominal x-rays were ordered.

At 15:30, patient B.D., a 74 year hemodialysis patient, was presented to the ED. He was referred because of melena and hypotension beginning shortly after hemodialysis. B.D. had a

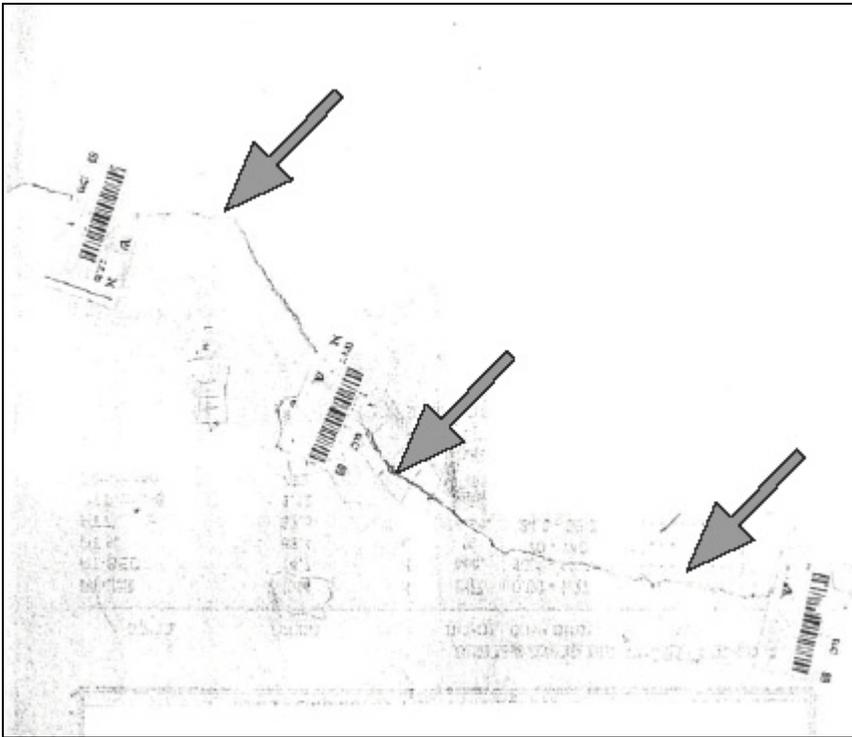


Figure 1: Torn test report held together by patient labels

past history of ischemic heart disease with CABG, diabetes, peripheral vascular disease, chronic atrial fibrillation and hypothyroidism. B.D. did not take coumadin. He was examined by the same senior resident in surgery. Rectal examination revealed melena, and the resident ordered blood tests including INR and chest x-ray.

The blood tests results of both patients were printed about 10 minutes apart. B.D.'s INR result was 1.44. The form was accidentally torn in 2 parts and one of the staff personnel held both parts together using small demographic labels, later revealed to belong to patient A.S. (Fig. 1). The torn INR result form was folded and put in A.S.'s medical record.

A.S.'s INR was 4.94. This INR result form was folded and put into B.D.'s medical record.

The resident surgeon checked B.D.'s results and documented that his INR was 4.94 and hemoglobin level 8.8 gm%. Relying on these results, the resident surgeon asked the senior internal medicine physician in the ED to admit the patient to the medical ward for INR correction and investigation. The latter examined the patient, admitted him to the Medical Ward A

and ordered 2 fresh frozen plasma units. The patient was transferred to Medical Ward A with the plasma units. The junior resident in ward A examined the patient and gave the patient one plasma unit at 18:00.

Meanwhile, the surgery resident in the ED checked the results of patient A.S. and documented that his INR was 1.44, hemoglobin 17.8 gm% and amylase 119 units (N=89). His diagnosis was abdominal pain, mild pancreatitis and transferred the patient to the same senior resident in the ED. The senior resident examined the patient and admitted him to medical ward B but before leaving the ED she noticed that A.S.'s INR was low for a patient taking coumadin and asked the hematology laboratory to recheck the blood sample.

An hour later the senior physician received A.S.'s INR retest and the result was 4.94. At this moment she recognized that an error had occurred, and called the junior resident in medical ward A. The junior resident checked the name on the INR result form and found that it belonged to patient A.S. and not B.D., and ordered not to give the second plasma unit. The junior resident did not document, did not inform

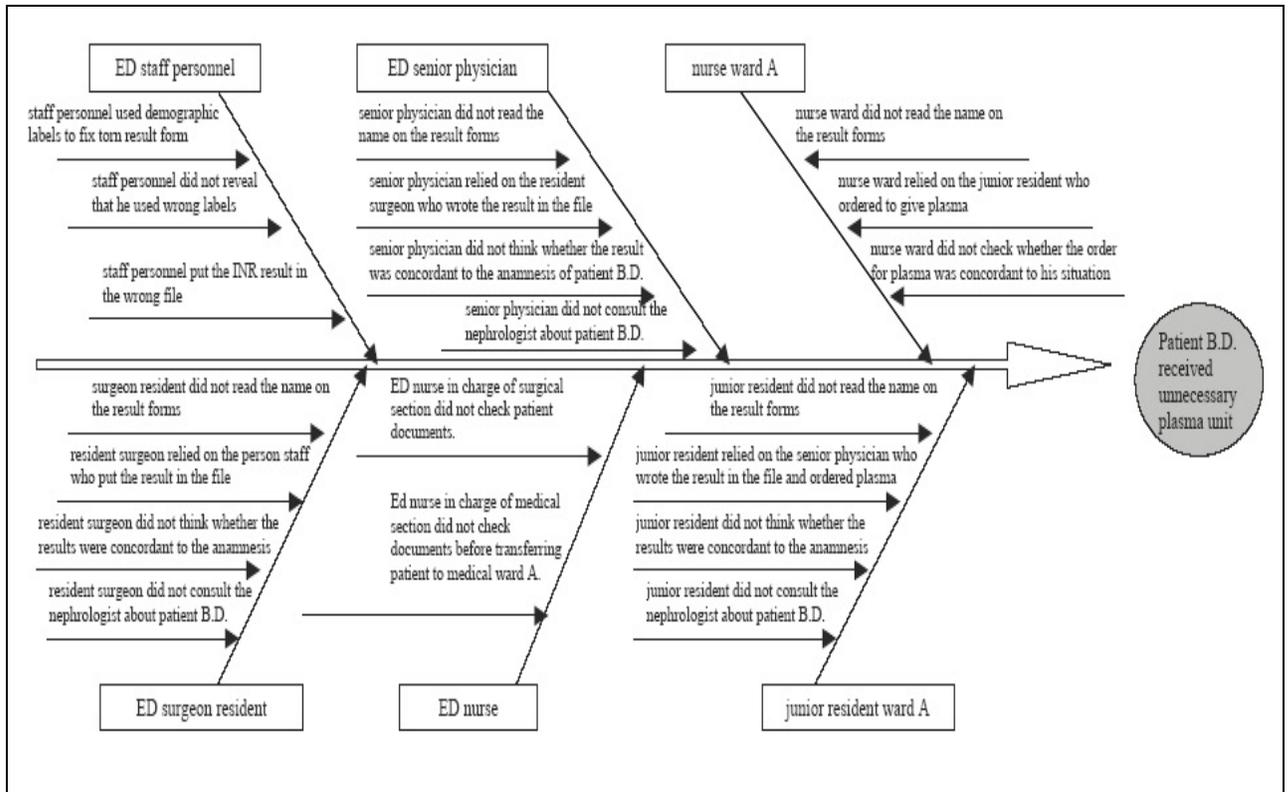


Figure 2: Fishbone Chart

the patient about the mistake and informed the head of the department the next day only. The risk management unit was informed on the next day.

Discussion

Errors occur everywhere and everyday. The important thing is what acts do we take in order to prevent errors, and what barriers do we place that can interrupt the sequence of events. Human factors, in particular the ways individuals process information, contribute to both error commission and error detection. James Reason (1) identified a number of ways in which individuals make errors, each of which having a different underlying cognitive precursor. He divided errors to three types : Slips, rule-based mistakes and knowledge-based mistakes. Inattention while using automatic unintentional method of cognition contributes to slips. Rule-based mistakes occur when an individual uses or misuses an appropriate or inappropriate rule in a problem-solving mode. Knowledge-based mistakes occur when a

cognitive-solving mode of action is used but the individual does not have enough knowledge. Moreover, Reason described in his book the Swiss Cheese model of errors. Absence of barriers to inhibit a sequence of errors leads to unwarranted hazards. Barriers include rules, attitudes, guidelines, computerized systems and other systems intended to oblige the physician to stop or remind him to think again before continuing with his actions. While even the most strict and sophisticated systems and barriers can be bypassed, they still may force the practitioner to pause and think.

Analyzing an event can be done in several ways. The fishbone diagram is commonly used (Diagram 1). In this case, multiple staff slipped and bypassed rule-based modes of action. There are written rules that oblige the physician to identify the patient and his blood results by himself, to consult the nephrologist 24 hours a day before treating any patient on dialysis, to document every mistake and to report to his senior physician on every event. Furthermore, as far as we were informed, the hospital runs individual training for every new physician, including acquaintance with the regulations of

the ministry of health and internal regulations of the hospital. Despite these actions, one can see how each staff personnel at the ED ignored all rules and regulations, relied on the latter in an automatic way and bypassed other rules, resulting in that unnecessary mistake.

Another barrier that could have interrupted the chain of errors is the ED nurse. Among many other duties, the ED nurse is also responsible to check whether all the documents in the medical chart belong to the specific patient, at least before transferring him out of the ED. In this case even this barrier failed. The ED nurse in charge of the surgical section did not check the documents, and the ED nurse in charge of the medical section did not check the documents before transferring the patient to the medical ward.

The latter physician at the medical ward contributed to the sequence of mistakes. He did not check the results by himself, did not document the event in the patient's medical record and did not explain the mistake to the patient. This in fact violated the law of the patient's rights (2) and the policy statement of the Israeli Medical Association (3). The nurse in medical ward A did the same mistake by putting the result forms in the chart without checking whether they belong to the right patient.

Conclusion

Undoubtedly, this error was preventable if all the staff personnel would have adhered to hospital's rules and regulations. Fortunately no harm occurred to the patient. Rules, regulations and guidelines are barriers that are intended to create a safer environment and to be violated.

References

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3. Policy statement of the Ethics Bureau of the Israeli Medical Association 09/04/2004.

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