

SHORTCHANGING PATIENT HISTORY: Increasing the Risk of Error and Waste of Medical Resources

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Introduction

Wasteful medical practices pose serious problems for patients, healthcare professionals, institutions and the economy. Redundant or unwarranted diagnostics and procedures result in consumption of needed resources, increased costs and harms. Twenty years ago experts at the Institute of Medicine estimated that close to 100,000 patients per year died of adverse medical injuries.¹ More recently, an examination of the costs associated with adverse events and multiple physicians ordering redundant tests and procedures showed a combined direct cost of >21 billion dollars in 2004 alone.² In 2008, National Institutes of Health bioethicist Ezekiel Emanuel, MD, PhD, and Stanford economist Victor Fuchs, PhD, in their work "The Perfect Storm of Overutilization," presented a strong indictment of the industry, arguing that over-utilization of tests and procedures were the primary drivers of high healthcare costs in America.³

We suggest that a thorough history, including reviewing relevant historical records combined with judicious clinical decision-making, is one method to reduce these inefficiencies and risks. We present a case of a patient admitted for chest pain and the resultant extensive workups, and then explore the history of previous admissions, extensive workups and diagnosis given.

Case Presentation

Case History

A 54-year-old Hispanic male presented to the ED one hour after onset of chest pain. Prior to arrival, EMS personnel had administered three nitroglycerin and fentanyl with no relief. On arrival, patient appeared uncomfortable but in no acute distress; hypertensive with normal HR. Patient received four aspirins and a nitroglycerin drip was started. Initial workup included serial troponins which were negative, BNP and CBC/CMP each unremarkable. Serial EKGs were non-ischemic. Chest x-ray was stable mild cardiomegaly. ED consulted cardiology service and admitted the patient to medicine service.

Hospital Course

Patient was placed on telemetry and restarted on appropriate home medications. The next morning, out of concern for historical complaints and unremitting but intermittent chest pain, the patient underwent a heart catheterization procedure which revealed patent coronary arteries and no concerning pathology. A subsequent D-dimer was elevated and the consequent CT chest with PE protocol showed a moderate hiatal hernia but no pulmonary embolism, aortic aneurism or dissection. Cardiology service recommended pantoprazole and outpatient referral to gastroenterology for further evaluation. Patient was deemed stable and discharged home with appropriate follow up.

Discussion

The documented history for the most recent admission did not mention review of any history or signs and symptoms that may be associated with the differential. However, a review of the patient's historical medical record showed an extensive list of admissions over the previous 4 years for acute chest pain. Present in the record are documented findings of imaging demonstrating hiatal hernia, biopsy-proven GERD, EDG and swallow study findings of esophageal dysmotility and spasm as early as January 2017. Despite this, the



patient has undergone extensive workups with each presentation. From 4/2016 to 2/2020 there were 11 ED visits and three hospital admissions for the same presenting complaint, and a final diagnosis of non-cardiac chest pain, GI/Esophageal spasm related. Each of these visits entailed the same basic cardiac workup as

detailed in the most recent visit: troponins, BNP, CXR, EKG. Further studies involving CT chest/abdomen, echocardiograms, stress tests, were ordered at various points in time.

Conclusion

Without a patient history as a guide, prudence dictates working up the most life-threatening causes of the presenting complaint. However, a good review of the history combined with judicious use of clinical decision-making tools may prevent unnecessary and invasive diagnostic procedures. This reduces risk of iatrogenic injury through unnecessary or unwarranted procedures, lowers costs to the patient, while freeing up resources to be made available to other patients. In this case, a thorough history revealing previous episodes of esophageal spasm, combined with a wholly negative basic cardiac workup could have prevented redundant and invasive testing, expensive diagnostic imaging and an unwarranted procedure that carries non-negligible risk.



References

1. Kohn LT, Corrigan JM, Donaldson MS, editors. To err is human: building a safer health system. Washington (DC): National Academies Press; 2000. <https://www.ncbi.nlm.nih.gov/books/NBK225182/>
2. Jha AK, Chan DC, Ridgway AB, Franz C, and Bates DW. Improving Safety And Eliminating Redundant Tests: Cutting Costs In U.S. Hospitals, *Health Aff (Millwood)*. 2009;28(5):1475-1484. doi.org/10.1377/hlthaff.28.5.1475
3. Emanuel EJ, Fuchs VR. The perfect storm of overutilization. *JAMA*. 2008;299(23):2789-2791.
4. <https://www.rootinc.com/wp-content/uploads/2017/03/healthcare.jpg>
5. <https://th.bing.com/th/id/OIP.qRFPyJt3agXMw8Cn6xcozAHaFj?w=288&h=216&c=7&o=5&dpr=1.5&pid=1.7>