WebM&M
Morbidity and Mortality Rounds on the Web

Spotlight

The Consequences of Miscommunication Regarding a Possible Artifact

AHRQ Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

PSNet
PATIENT SAFETY NETWORK

Source and Credits

- This presentation is based on the June 2021 AHRQ WebM&M Spotlight Case
  - See the full article at https://psnet.ahrq.gov/webmm
  - CME credit is available
- Commentary by: Kriti Gwal, MD
- AHRQ WebM&M Editors in Chief: Patrick Romano, MD, MPH and Debra Bakerjian, PhD, APRN, RN
  - Spotlight Editors: Ulfat Shaikh, MD, and Patrick Romano, MD
  - Managing Editor: Meghan Weyrich, MPH

Objectives

At the conclusion of this educational activity, participants should be able to:

- Discuss the importance of miscommunication in radiology as a contributor to medical malpractice risk, sentinel events, and delays in diagnosis and treatment.
- Describe the importance of effective communication between radiologists and referring physicians.
- Explain clinical criteria for urgent communication and “closed loop” communication between radiologists and referring physicians.
- Identify specific approaches to facilitate effective communication among radiologists, referring clinicians, and patients, to reduce communication-related errors.

THE CONSEQUENCES OF MISCOMMUNICATION REGARDING A POSSIBLE ARTIFACT

A case describing how miscommunication between radiologists and referring physicians can contribute to delays in diagnosis and treatment

Case Details

- 52-year-old man complaining of intermittent left shoulder pain for several years was diagnosed with a rotator cuff injury and underwent left shoulder surgery
- Four months later, the orthopedic surgeon ordered a routine follow-up X-ray of the left shoulder
- The radiologist interpreted the film as a normal left shoulder radiograph but noted a "…soft tissue density in the left suprahilar region most possibly artifact, however follow-up chest X-ray is advised for further evaluation"

Case Details

- The radiologist's report along with the images were sent to the orthopedic surgeon's office the same day
- The orthopedic surgeon independently read and interpreted the same images as "slight loss of rotator cuff interval added to decompression of AC joint and undersurface of the acromion noted"
  - There was no mention of the soft tissue density nor was any follow-up study ordered
- The patient saw the orthopedic surgeon multiple times after the initial follow-up X-ray without any knowledge of or follow-up for the "soft tissue density" in the left suprahilar region

Case Details

- Several months later, the patient's primary care physician (PCP) noted the radiologist's finding during a routine visit and ordered further evaluation
- Following needle biopsy guided by computed tomography, the lung mass was diagnosed as a Stage IIB adenocarcinoma with metastasis to one of ten parabronchial nodes
  - The diagnosis was followed by surgical resection and several courses of chemotherapy
  - Under review of the images, the mass had grown from an initial diameter of 3.5 cm to 7.0 cm just before resection

THE CONSEQUENCES OF MISCOMMUNICATION REGARDING A POSSIBLE ARTIFACT

THE COMMENTARY

By Kriti Gwal, MD

Communication Errors in Radiology

Communication Errors in Radiology

- In radiology, communication errors are considered one of the most important causes of sentinel events and are frequent reasons for lawsuits against radiologists
  - The Joint Commission found that errors in communication contributed to about 64% of all sentinel events in 2013-2014 and contributed to 81% of events where delays in treatment resulted in death or permanent loss of function
- Transitions of care from one team to another remain a weak point at which communication errors may occur
  - Care of the patient often shifts to the radiologist and then back to the referring physician via the radiology report; thus, the radiology report serves as an important means of communicating information (or as a source of communication errors)

“What We’ve Got Here is Failure to Communicate”

“What We’ve Got Here is a Failure to Communicate” (1)

- The two principal communicating parties in this case are the radiologist and the referring physician
  - Radiologists are responsible for the production and delivery of radiology reports
  - Referring physicians are responsible for obtaining and reading radiology reports

“What We’ve Got Here is a Failure to Communicate” (2)

- Multiple types of communication errors involving radiology can occur
  - Examples include failure to communicate critical findings to the primary care physician or communicating incorrect findings
  - One study found that lack of sufficient communication by the radiologist accounted for about 47% of communication-related errors
- Although some communication errors have little or no clinical impact, others can result in sentinel events and cause devastating results
  - For example, lack of sufficient communication between radiologists and referring physicians may cause delays in diagnosing malignancies or other conditions warranting urgent interventions such as surgery

“What We’ve Got Here is a Failure to Communicate” (3)

- In this case, the orthopedic surgeon should have read and acted upon the final report from the radiologist
  - A recent survey of orthopedic surgeons in Australia and New Zealand found that the majority did not routinely read radiology reports; only 18.5% reported always reading the report while 2% reported never reading the report
- To improve patient safety, non-radiologist physicians who choose to interpret radiographs should always read the final report sent by the radiologist
  - Radiologists provide structured interpretations of images based on formal education and experience and can help prevent diagnostic errors

Approach to Improving Safety & Patient Safety Target

Approach to Improving Safety & Patient Safety Target (1)

- The American College of Radiology formed the Actionable Reporting Work Group to develop communication best practices for radiologists
  - Within Minutes:
    - Communicate findings which could lead to mortality or morbidity if not immediately acted upon by the referring physician
    - Findings that suggest a need for immediate or urgent intervention include ectopic pregnancy, intracranial hemorrhage, pulmonary embolism, ruptured aortic aneurysm, severe cord compression, malpositioned lines or tubes, tension pneumothorax, testicular/ovarian torsion, unexplained pneumoperitoneum, or unstable spine fracture

Approach to Improving Safety & Patient Safety Target (2)

- Within Hours:
  - Communicate clinically significant findings which may need specific treatment but may not urgently affect the patient's presentation
  - Provide direct communication through a finalized report, a preliminary report via secure fax, or another locally defined method of communication
- Within Days:
  - Communicate findings which may not need immediate treatment, including those that may eventually become significant after time, incidental or unexpected findings, or findings with increased risk of being missed such as those that may not directly relate to clinical presentation

- These guidelines are intended to ensure timely communication of results to the referring physician in a manner than can be readily understood

Approach to Improving Safety & Patient Safety Target (3)

- Although the radiology report is the most common method of communication, some cases warrant other forms of communication between the radiologist and referring physician
  - Emergent or critical findings should be communicated directly to the referring team (such as by telephone) and the radiologist should document that such direct communication took place in their report

Approach to Improving Safety & Patient Safety Target (4)

- In this case, it is debatable (in terms of current best practices) whether the radiologist should have called the referring clinician
  - As the abnormal finding of a “soft tissue density in the left suprahilar region” was attributed to a probable artifact, some radiologists would consider it adequate to describe the finding and to suggest follow-up in the written report, which is what happened in this case
  - However, the radiologist in this case was also implicated in the civil suit filed by the patient, suggesting that additional communication is desirable whenever follow-up or intervention is advised

Approach to Improving Safety & Patient Safety Target (5)

- Radiologists are encouraged to close the communication loop with the referring physician whenever imaging reveals an unexpected incidental finding, any finding that may change management for the patient, or when nondiagnostic imaging necessitates repeated or different examination
  - ”Closed loop” communication includes not just transmission of results but also verbal or written acknowledgment of those results by the recipient
  - If the referring physician or primary care physician is unreachable, contacting the patient directly to communicate results and recommendations could be a viable alternative for radiologists

Systems Change Needed

Systems Change Needed (1)

- The radiologist should provide a well written, comprehensive report that includes a succinct impression and recommendations for the most appropriate follow-up evaluation or imaging test, when necessary
  - The final report should be sent to the referring physician, but to provide an added layer of defense, the report can also be sent to the PCP, if different than the referring physician.
  - In this case, it was the patient's PCP who read the radiologist's report and then ordered the necessary follow-up examination.

Systems Change Needed (2)

- A radiology assistant can serve as an important safeguard for effectively communicating radiology results.
  - Reading room assistants support radiologists and can help connect the referring physician to the radiologist, reducing disruptions and time waiting on the telephone

Systems Change Needed (3)

- Newer electronic methods can help ensure effective communication
  - Radiologists can use electronic health records (EHRs) to flag automatically or contact referring physicians and/or PCPs if a follow-up test is recommended (this communication loop could be closed by an assistant on either side)
  - Secure text messaging platforms can be used to communicate non-urgent findings and recommendations, and to receive confirmation of receipt of findings

Systems Change Needed (4)

- Radiologist recommendations can be placed into the picture-archiving and communication system (PACS), along with a phrase or symbol combination that could be used for searching
  - An administrative person would then verify that the recommended follow-up test had been performed
  - If the test has not been performed, the administrative person or radiologist would then contact the referring physician for closure of the communication loop
- Direct release of reports to patients should also decrease the risk for communication errors and may encourage increased communication between the patient and the referring physician and between the patient and the radiologist

TAKE HOME POINTS

Take-Home Points

- Timely and adequate communication between referring physicians and radiologists is essential for providing safe and effective care in follow-up to imaging tests.
- The American College of Radiology's Actionable Reporting Work Group has described communication methods comprising best practices for radiologists to follow, depending on the urgency of the findings.
- Responsibility for communicating imaging results and arranging follow-up lies with both the radiologist and the referring physician; "closed loop" communication may be advantageous for findings that affect management or necessitate follow-up testing.
- Physicians who are not radiologists but who interpret the radiographs that they order should also read the final reports sent by radiologists and follow up on their recommendations, as indicated.
- Improving communication by implementing multiple systems-based changes, using both e-methods and traditional approaches, could decrease risks associated with communication errors in radiology.

REFERENCES

References

1. The Joint Commission. Sentinel event statistics data: root causes by event type (2004-2014). The Joint Commission website. Available at: www.jointcommission.org/assets/1/18/Root_Causes_by_Event_Type_2004-2014.pdf. Accessed June 2021.
2. Siewert B, Brook OR, Hochman M, et al. Impact of Communication Errors in Radiology on Patient Care, Customer Satisfaction, and Work-Flow Efficiency. *AJR Am J Roentgenol*. 2016; 206 (3): 573-579.
3. Larson PA, Berland LL, Griffith B, et al. Actionable Findings and the Role of IT Support: Report of the ACR Actionable Reporting Work Group. *J Am Coll Radiol*. 2014; 11: 552-558.
4. "Communication." *Merriam-Webster.com Dictionary*, Merriam-Webster. Available at: https://www.merriam-webster.com/dictionary/communication. Accessed May 2021.
5. Babu AS, Brooks ML. The Malpractice Liability of Radiology Reports: Minimizing the risk. *Radiographics*. 2015 Mar; 35 (2): 547-554.
6. Kruger P, Lynskey S, Sutherland A. Are orthopaedic surgeons reading radiology reports? A Trans-Tasman Survey. *J Med Imaging Radiat Oncol*. 2019 Jun; 63 (3): 324-328. doi: 10.1111/1754-9485.12871.
7. The Joint Commission. Sentinel Events. Available at: https://www.jointcommission.org/resources/patient-safety-topics/sentinel-event/. Accessed May 2021.
8. American College of Radiology (ACR). ACR Practice Parameters for Communication of Diagnostic Imaging Findings (Revised 2020). Available at: https://www.acr.org/-/media/acr/files/practice-parameters/communicationdiag.pdf. Accessed May 2021.
9. Fatahi N, Krupic F, Hellström M. Difficulties and possibilities in communication between referring clinicians and radiologists: perspective of clinicians. *J Multidiscip Healthc*. 2019; 12: 555-564. doi:10.2147/JMDH.S207649.
10. Collins SJ, Newhouse R, Porter J, Talsma A. Effectiveness of the surgical safety checklist in correcting errors: a literature review applying Reason's Swiss cheese model. *AORN J*. 2014; 100 (1): 65-79.e65. doi:10.1016/j.aorn.2013.07.024.
11. Larson DB, Froehle CM, Johnson ND, et al. Communication in Diagnostic Radiology: Meeting the Challenges of Complexity. *AJR Am J Roentgenol*. 2014; 203 (5): 957-964.
12. Reiner BI. Strategies for radiology reporting and communication. Part 1: challenges and heightened expectations. *J Digit Imaging*. 2013; 26 (4): 610-613. doi:10.1007/s10278-013-9615-6.