WebM&M

Morbidity and Mortality Rounds on the Web

Spotlight

A Loss of Trust and a Missed Diagnosis

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 February 2022 AHRQ WebM&M Spotlight Case
  - See the full article at https://psnet.ahrq.gov/webmm
  - CME credit is available
- Commentary by: John Landefeld, MD, MS, Sara Teasdale, MD, and Sharad Jain, MD
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Objectives

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

- Evaluate the ‘red flag’ symptoms associated with low back pain and implement follow-up evaluation appropriately.
- Describe evidence-based first line treatments for low back pain and assess the appropriate role of opioid analgesics in low back pain management
- Discuss how pain-related stigma can compromise effective, timely care for patients with chronic illness

A LOSS OF TRUST AND A MISSED DIAGNOSIS

Missed lung cancer diagnosis in an older women with history of 50 pack-years of cigarette smoking and low back pain highlights ‘red flag’ symptoms associated with low back pain and how pain-related stigma can limit effective, timely care

Case Details (1)

- A 65-year-old woman with a past medical history of hypothyroidism, depression, and 50 pack-years of cigarette smoking presented to her primary care physician (PCP), concerned about low back pain.
  - She had sustained a minor fall a few weeks prior, although initially she did not have pain.
- At the time of her appointment, she described the pain as deep, and 6 out of 10 in severity, concentrated in her left low back.
- She was advised to apply ice and take ibuprofen.

Case Details (2)

- She returned to her PCP a few months later and reported persistent pain.
  - A lumbar spine radiograph was performed that showed mild degenerative disc disease.
  - The patient was prescribed hydrocodone/acetaminophen in addition to the ibuprofen; she found these medications helpful.
  - The PCP encouraged her to exercise more and try to lose some weight (her body mass index was 28 kg/m2).
- At subsequent follow-up visits, her physician extended the hydrocodone/acetaminophen for an additional month and continued to encourage exercise and weight loss.

Case Details (3)

- In 2020, as the COVID-19 pandemic restricted in-person visits, she was seen by video twice for progressive pain—now 9 out of 10 in severity and limiting her ability to walk due to leg spasms.
- She requested an extension of her hydrocodone/acetaminophen prescription, which the PCP denied out of concern that she was ‘drug seeking.’ He encouraged exercise and attributed her pain to depression.
- Over the next several weeks, her pain continued to worsen. She began experiencing balance problems and leg spasms such that she required use of a walker to ambulate.
- Her family encouraged her to see her PCP; however, she refused to see him because she felt he didn’t believe her symptoms. The patient now struggled so much with activities of daily living that she required her daughter and daughter-in-law to care for her.

Case Details (4)

- A year after her initial evaluation for back pain, the patient's family brought her to the emergency room because she was unable to ambulate even to the bathroom due to pain.
- The emergency physician ordered spine, left hip, and chest x-rays.
  - The chest x-ray showed a 5 cm lesion in her lung, the spine x-ray showed a small vertebral lesion, and the hip x-ray showed multiple lesions in her pelvic bones.
  - A biopsy of the lung lesion led to a diagnosis of lung cancer, and magnetic resonance imaging (MRI) showed signs of metastases to the liver and bone, as well as multiple small fractures of the pelvic girdle.
- Given the extent of metastatic disease, the patient decided against aggressive treatment with curative intent and enrolled in hospice. She received morphine for pain while her family provided around-the-clock care.
- She died of metastatic lung cancer 6 weeks after her enrollment in hospice.

A LOSS OF TRUST AND A MISSED DIAGNOSIS

THE COMMENTARY

By John Landefeld, MD, MS, Sara Teasdale, MD, and Sharad Jain, MD

BACKGROUND

Background (1)

- This tragic story highlights many patients' and many clinicians' worst fears of broken trust and missed diagnoses.
- The three themes of this case – low back pain, lung cancer screening and diagnosis, and opioid analgesics – arise daily in primary care practice and each is associated with missed opportunities for intervention that could have improved the quality of care and outcomes for this patient.

Background (2)

- Low back pain is a common concern in primary care practice, accounting for at least 0.5% of all visits to primary care practices in 2018.
- Such pain can develop from conditions that range from being relatively benign (e.g., myofascial pain, degenerative disc disease) to debilitating and life-threatening (e.g., epidural abscesses, bony metastases).
- As a result, clinicians must employ evidence-based diagnosis and treatment approaches to ensure that the care they provide is safe, effective, and consistent for all patients.

Background (3)

- Approaches to the evaluation and treatment of back pain have been consistently summarized in the family medicine and internal medicine literature.
- The majority of patients do not require imaging.
  - However, if low back pain does not improve with conservative therapy, further diagnostic efforts must ensue in a timely manner.
  - In addition, there are several suspected diagnoses that require urgent evaluation and imaging; these include cauda equina syndrome, spinal infections (spinal abscess, epidural abscess, osteomyelitis), and cancer in the spine.

Background (4)

- Clinicians should look for “red flag” symptoms and signs that may warrant advanced imaging with MRI.
  - These include new urinary retention, fecal incontinence, saddle anesthesia, history of intravenous drug use, history of cancer or major risk factors for cancer, and severe progressive motor deficits.
  - The strongest predictor of a malignant cause of back pain is a personal history of cancer that is known to metastasize to bone.

Background (5)

- In this case, during her second clinic visit, it was reasonable to obtain a plain radiograph of the region of the patient's low back where she was experiencing acute pain, primarily due to her risk factors for vertebral compression fractures from osteoporosis, i.e., her sex, age, and history of cigarette smoking.
- However, the remainder of the physician's evaluation provided minimal diagnostic value. As her symptoms progressed to involve radicular symptoms with leg spasms, magnetic resonance imaging would have been indicated due to her older age (a risk factor for fracture) and long history of smoking (a risk factor for cancer).

Background: Lung Cancer Screening (6)

- Lung cancer is the leading cause of cancer deaths and must be considered in patients with historical or current tobacco use.
- The USPSTF recommends that patients between the ages of 50 and 80 years who ≥20 pack-year smoking history, and who currently smoke or who have stopped smoking in the previous 15 years, undergo annual lung cancer screening using low dose computed tomography (CT) of the chest.
  - Other recent evidence-based guidelines suggest a smoking threshold of ≥ 30 pack-years.

Background: Lung Cancer Screening (7)

- This patient met these criteria for lung cancer screening, yet she had never been screened.
- Arguably, because this patient's back pain was eventually attributed to metastatic disease, this was a case of missed lung cancer *diagnosis*, rather than lack of *screening*, underscoring the fact that clinicians must consider life-threatening causes of low back pain, such as cancer, in evaluating patients at increased risk.
- Additionally, the patient in this case should have received annual CT scans of the chest for lung cancer screening.

Background: Opioids for Pain Management (8)

- The use of opioids for pain management in ambulatory care has come under intense scrutiny due to the concern that overprescribing opioids has contributed to the current epidemic of opioid overdose deaths in the United States.
- Regulatory bodies, health systems, and professional societies have all encouraged providers to taper the opioid prescriptions of patients on long-term opioids and to limit new prescriptions for opioids (both for acute and chronic indications).
- As a result, opioid prescribing has decreased in the United States; as of 2019, opioid prescribing was at its lowest level since 2006.

Background: Opioids for Pain Management (9)

- In 2016, the United States Centers for Disease Control and Prevention (CDC) released "CDC Guideline for Prescribing Opioids for Chronic Pain," which was intended to guide front-line providers on how to use these medications safely.
  - The CDC's guidelines included many laudable recommendations; however, some may have been interpreted less as 'guidelines' and more as 'standards.
  - For instance, while the CDC advised that opioids for acute pain will rarely benefit patients beyond 7 days' duration, this is not an instruction for providers to use 7 days as a firm limit. Rather, the CDC advised that treatment duration decisions must be individualized and patient-centered.

Background: Opioids for Pain Management (10)

- This case demonstrates how a delay in diagnosis can lead to poor outcomes for patients with life-threatening conditions.
- Diagnostic errors, defined as inaccurate or delayed diagnoses, are common in medicine; the Institute of Medicine (now the National Academy of Medicine) reported in 2015 that 5% of adults who seek care in outpatient settings experience a diagnostic error each year.

SYSTEMATIC APPROACH TO IMPROVING PATIENT SAFETY: DIAGNOSIS

Approach to Improving Patient Safety: Diagnosis (1)

- This case demonstrates how a delay in diagnosis can lead to significant and catastrophic outcomes for patients.
- Diagnostic errors, defined as inaccurate or delayed diagnoses, are common in medicine.
  - The Institute of Medicine (now the National Academy of Medicine) reported in 2015 that 5% of adults who seek care in outpatient settings experience a diagnostic error each year.

Approach to Improving Patient Safety: Diagnosis (2)

- Graber et al.[14] divided diagnostic errors into three categories:
  - No-fault errors, which result from factors outside the control of the physician or the healthcare system
  - System-related errors, which include technological or organizational barriers
  - Cognitive errors, which include inadequate knowledge, poor critical thinking skills, a lack of competency, problems in data gathering, and failing to synthesize information

Approach to Improving Patient Safety: Diagnosis (3)

- In this case, the physician's initial workup appears appropriate since no 'red flag' symptoms or signs were evident from the information presented by the patient.
- However, the physician should have considered a new diagnosis and additional evaluation as the patient's pain worsened and she developed new symptoms, including leg spasms and difficulty ambulating.
- At that point, given her progressive symptoms, advanced imaging (e.g., MRI) would have been helpful for establishing a definitive diagnosis.
- The situation was complicated by the COVID-19 pandemic when many clinic visits were converted to virtual visits and evaluation of the patient often did not include a physical examination.

Approach to Improving Patient Safety: Diagnosis (4)

- Because of the cognitive error made in this case, the PCP involved would benefit from feedback and further education about the diagnosis and management of low back pain, particularly instruction regarding the need for further evaluation if the patient does not respond to conservative therapy.
- The physician in this case appeared to demonstrate premature diagnostic closure, as he labelled the patient as 'drug-seeking' and attributed her pain to depression. He did not consider alternate diagnoses despite her progressive symptoms.
- Ultimately, the patient lost trust in the physician because her disabling symptoms were not being adequately addressed.

Approach to Improving Patient Safety: Diagnosis (5)

- All healthcare delivery systems should have systems in place to ensure that all patients receive appropriate preventive services.
  - These services should be automated through health information technology so that busy providers who need to focus on more urgent issues are not solely responsible for arranging these interventions.
- Ample data suggests that lung cancer screening rates remain low throughout the United States.
- In this case, the patient should have been referred for annual lung cancer screening as recommended by the USPSTF. If that screening had been performed, her lung cancer would likely have been diagnosed at an earlier stage, perhaps before it had metastasized.

SYSTEMATIC APPROACH TO IMPROVING PATIENT SAFETY: MANAGEMENT

Approach to Improving Patient Safety: Management (1)

- When the patient first presented to her physician with low back pain, she had sustained a minor fall and was reporting sub-acute back pain.
- In an evaluation of back pain, there are three categories to consider:
  1. Nonspecific low back pain
  2. Back pain potentially associated with radiculopathy or spinal stenosis
  3. Back pain potentially associated with another specific spinal cause

Approach to Improving Patient Safety: Management (2)

- At that initial visit, the physician diagnosed her with nonspecific low back pain.
  - While this is the most common cause of pain following a fall, her history of smoking and age of 65 years should have also prompted an evaluation for underlying systemic disease.
- Nevertheless, based on the initial encounter, treatment for nonspecific low back pain with non-steroidal anti-inflammatories and conservative home measures was in line with the most recent back pain guidelines.
  - A recent systematic review found that clinicians should anticipate about 50% mean improvement in the severity of acute back pain over 6 weeks, with complete resolution in over 50% of patients by 12 weeks after onset.

Approach to Improving Patient Safety: Management (3)

- When the patient's pain had persisted, the physician appropriately ordered an x-ray. However, when the x-ray showed degenerative disc disease, the physician then prescribed hydromorphone/acetaminophen (in addition to ibuprofen).
  - Opiates should not be considered first line treatment for degenerative disc disease because this is a chronic, slowly progressive condition for which the risk of opioid therapy may exceed the modest therapeutic benefits.

Approach to Improving Patient Safety: Management (4)

- This visit was a missed opportunity. The physician should have considered whether the patient's clinical symptoms fit with the radiographic findings and, if not, ordered further imaging.
  - In addition, other nonpharmacological treatment modalities – such as a formal exercise program, multidisciplinary rehabilitation, massage, spinal manipulation, yoga, or acupuncture - should have been discussed as potential adjuncts to anti-inflammatory medications.
- Although the prescribed regimen of hydrocodone/acetaminophen and ibuprofen relieved the patient's pain temporarily, the fact that the medication stopped controlling her symptoms over time should have prompted additional evaluation.
  - A reduction in efficacy of a previously beneficial treatment could be indicative of progression of an underlying disease or development of physiologic tolerance to the medication.

Approach to Improving Patient Safety: Management (5)

- Unfortunately, as the patient's pain and symptoms intensified, the diagnosis was not re-evaluated. Instead, the provider discounted the patient's report of her pain, labeling her as 'drug-seeking.'
  - The labeling of a patient as 'drug-seeking' can shatter trust and rupture therapeutic relationships. Such labels, and the antagonistic relationships they can foster, may contribute to delays in diagnosis because so much focus in the clinical encounter is on the contention over opioid medications.
- Maintaining trust at the center of the physician/patient relationship is imperative when caring for anyone, but especially in treating chronic pain.
- Conversations about chronic pain management and opioid analgesics can be difficult but conveying genuine empathy without judgment is foundational to collaborating with patients to develop a safe and effective diagnosis and management plan.

Approach to Improving Patient Safety: Management (6)

- Additional factors that could have led to diagnostic error in this case include:
  - Short primary care visits, often with multiple topics to discuss in 15 minutes or less;
  - Anchoring bias when providers are asked for opioid refills, especially by patients with a known history of depression, anxiety, or substance use disorders;
  - The patient described her symptom simply as ‘pain’ with little effort by the provider to understand how the pain was evolving (i.e., location, type, severity, chronicity) and affecting her function and quality of life;
  - The PCP did not perform a physical examination to identify objective signs of motor weakness, muscle spasm, or sensory abnormalities; and
  - Appointments moved to virtual visits, which made assessments more difficult.

Approach to Improving Patient Safety: Management (7)

- How do primary care physicians, who are tasked with managing multiple chronic diseases and health care maintenance, maintain up-to-date knowledge about, and develop the skills necessary for, diagnosing and managing pain?
  - ***Review society recommendations or specialty publications.*** For example, the *Annals of Internal Medicine* recently published updated guidelines on the management of low back pain.[16-19] Providers who do not feel comfortable diagnosing and managing pain can also supplement their learning through continuing medical education courses, blogs, and podcasts to enhance their skills.
  - Although pain management specialists are not available in all health systems and communities, this PCP might have benefited from ***consultation with other provider(s) with greater expertise in evaluating and treating chronic pain***. Even within a primary care practice, it may be helpful to involve a colleague to look at a case with fresh eyes when the patient is not improving as expected.

TAKE HOME POINTS

Take-Home Points (1)

- Acute back pain should generally not be managed with opioid analgesics; instead, failure of symptom improvement with conservative management should prompt further diagnostic evaluation.
- Lung cancer may metastasize to bone, including the vertebrae, and its progression may cause nonspecific symptoms including back pain.
- Patients between the ages of 50 and 80 years, who have at least a 20 pack-year smoking history and currently smoke or who have stopped smoking in the previous 15 years, should be offered annual low-dose CT scans of the chest to screen for lung cancer.

Take-Home Points (2)

- Stigma associated with opioid analgesics can contribute to diagnostic errors. ‘Pain medication seeking’ or ‘drug seeking’ are labels that lack universal meaning and may distract care providers from conducting thorough diagnostic workups.
- Contentious interactions between providers and their patients with regard to pain medications can preempt more robust evaluations of symptoms. Tactics to prevent pain management from becoming adversarial include early and frequent communication about multimodal pain management and empathic listening.

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