

# Failure to Follow Up on Incidental Radiology Finding Leads to Delayed Kidney Cancer Diagnosis

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## Introduction

Medicine often is referred to as both art and science. The “art” aspect is the human side of medicine, and — like all human endeavors — it is subject to error. Unfortunately, these errors can sometimes have catastrophic consequences for the patient.

In this interesting case from the Northwest, a physician’s error combined with weak communication pathways resulted in an avoidable missed diagnosis.

## Facts

The patient was a 61-year-old male who had a medical history of Type 2 diabetes and hypercholesterolemia. His surgical history included an appendectomy, a tonsillectomy, and a colon resection approximately 1 year earlier. He had smoked until age 30 and was a modest alcohol drinker.

The patient presented to the local hospital emergency department (ED) at 1 p.m. on October 9 of Year 1 with abdominal pain. He described the pain as constantly dull with sharp periods. He also had epigastric pain, nausea, chills, vomiting, and a decreased appetite — but no fever or vomiting.

Dr. D, a MedPro-insured emergency medicine physician, saw the patient within 30 minutes of arrival and ordered an abdominal/pelvic CT with contrast to rule out a bowel perforation. Dr. D’s ED report stated, “A CT scan of the abdomen and pelvis shows early small-bowel obstruction, otherwise negative. I have discussed the results with the patient. I have also discussed the case with Family Medicine, and they have agreed to admit the patient. I have written basic orders. He will be transferred to the floor in stable condition.” The patient was moved to the family medicine floor at 3 p.m.

The radiologist's final CT report stated "Impression: (1) Previous right colectomy with dilated mid to distal small bowel loops and small bowel stasis concerning for developing small bowel obstruction. There is no perforation. (2) 3.0 complex right renal lesion. Recommend follow-up dedicated renal CT or MRI. . . . These findings were discussed with Dr. D immediately after interpretation on 10/9." (The final CT report also included six other additional findings; however, those are not relevant to this case.)

Following the verbal discussion, a written summary was also sent to Dr. D that stated "Prev R Colect W/Dil Mid-Dist Sm Bowel Loops & Sm Bowel Stasis Concerning for Dev SBO. No Perf. Tics. 3cm Complex R Renal Lesion — Rec F/U Dedic Renal CT or MRI. Cholelith Asvd. Sm Fat Contain R Ing Hernia. RII Gran. Spondy."

No evidence suggests that Dr. D read or signed off on the written summary. An audit trail indicates that the final radiology report was printed at 7 a.m. on October 11 and entered into the paper hospital record sometime after.

At the time this case was litigated, Dr. D had no independent recollection of the case; hence, she had no explanation for why the renal lesion was not discussed with the patient or the family

medicine physicians. It was assumed that, for whatever reason, she simply forgot about it.

The patient's admitting history and physical (to the family medicine floor) states "CT of the abdomen shows early small-bowel obstruction," but no mention is made of the renal mass or the six other incidental findings listed in the final CT report. This is also true for the discharge summary from the family medicine floor, which was completed on October 11.

A family medicine physician saw the patient on the morning of October 10, and he was improving. An abdominal X-ray was performed that morning, which indicated "(1) paucity of small bowel gas. . . . No evidence of complete bowel obstruction. Recommend continued clinical and radiographic follow-up. (2) Cholelithiasis."

Because he was improving, the patient was prepared for discharge on October 11. Prior to discharge, an additional abdominal X-ray was performed, with the findings reported as "Cholelithiasis. Otherwise, no acute intra-abdominal process."

A family medicine resident saw the patient at 6:45 a.m. on October 11 and noted "doing great . . . await ABS. Plan to discharge today." The patient was discharged at 2 p.m. and

received a copy of the discharge summary, which listed the following discharge diagnoses:

1. Early small bowel obstruction, resolved.
2. Abdominal pain secondary to #1, resolved.
3. Diabetes mellitus, controlled.
4. Dyslipidemia, stable.
5. Nausea, controlled and resolved.

The patient was instructed to follow-up with his primary care provider (PCP) within 10 days, which he did. The PCP's record did not contain any of the radiology reports from this hospitalization, and nothing indicates that he knew anything about the renal lesion.

On October 12 of Year 3, the patient presented to the same ED with chest pain. A chest X-ray was not concerning, and the patient was discharged with instructions to have a follow-up stress test. The stress test also was not concerning, and the patient received no further treatment at that time.

He was next seen on July 14 of Year 5, again with chest pain. After a negative echocardiogram, he was discharged with an order for a repeat echocardiogram in 6 months.

The patient returned to the ED on August 31 of Year 5 with a fever for 5 days and atraumatic

hip pain for 2 weeks. In the course of his workup, it was determined that the renal mass was now 4.0 cm in diameter, and there were "multiple sclerotic lesions throughout the thoracolumbar spine." Surgical pathology confirmed that the patient had Type 2 papillary renal cell carcinoma.

The patient received treatment from September of Year 5 to July of Year 6, when he died from the complications of renal cell carcinoma.

A medical malpractice lawsuit was commenced against Dr. D (the emergency medicine physician), the original radiologist, and the family medicine physicians. The case was resolved with a payment on behalf of Dr. D (at her request) in the high range, with defense costs also in the high range. The other defendants were dismissed without a payment.

## Discussion

The defense counsel's thorough investigation of this case was unable to identify any reason for Dr. D not reporting the renal lesion (both in her ED record and to the patient), other than that she simply forgot it. One can only speculate that, at the time Dr. D was receiving the oral report of the CT from the radiologist, she was distracted and did not hear the information

or it did not “register” with her. We have all experienced this at one time or another.

This case illustrates the value of an analytical model known as failure mode and effects analysis (FMEA), an approach to practice that the medical community borrowed from the aviation industry. When FMEA is applied to a process, it is assumed that errors will occur in the process (thereby “destigmatizing” human error). The analysis tries to identify how those errors will affect the process and final outcome. Once vulnerabilities are identified, “fail-safe” techniques can be devised, which are designed to minimize or eliminate the effects of these errors on the final outcome of the process.

One of the challenges in applying FMEA to healthcare is proactively identifying the ways that errors can occur in daily practice. In this case, it is reasonable to think that the ED physician (the one person who, at that time, had all of the critical information flowing through her) would experience a distraction that could disrupt her normal thought processes.

To address this potential problem, the radiologist implemented a fail-safe technique to communicate the information a second time to Dr. D via a written summary. However, this effort also fell short because there is no indication that Dr. D ever reviewed or signed off on

the summary. Thus, when implementing redundant systems or processes to prevent errors, it is also important to consider how they might be vulnerable to lapses and mistakes.

The family medicine physicians were dismissed from this case without a payment because they had no practical way of knowing about the renal lesion. The audit trail shows that the written final CT report was not entered into the record until after the family medicine physicians had seen the patient on October 11 (approximately 36 hours after the CT scan was performed). The family medicine physicians would have never viewed the report unless they happened to review the record as the patient was on his way out the door. Similarly, the patient’s PCP would be unaware of the renal lesion without receiving a copy of the final CT report (which we would not normally expect).

In some diagnosis-related malpractice cases, a defense argument can be made that an earlier diagnosis would not have made any difference in the patient’s outcome. This defense, known as factual causation, was not applicable in this case. If the lesion had been acted on in Year 1, the chances of cure were 90 percent or greater; by the time the patient was treated, he had less than a 10 percent chance of cure.

## Summary Suggestions

The following suggestions may assist healthcare providers when multiple departments are involved in the care of patients:

- Emergency physicians and others receiving direct verbal reports from radiologists (and, possibly, pathologists) should take some brief notes and/or repeat back to the radiologist any findings requiring prompt follow up.
- When a physician knows that a summary report will be forthcoming following the order of a test, reviewing and signing off on that summary is essential, even if the results were already conveyed verbally.
- When a subsequently treating physician is aware that a test was ordered, it is a best practice to briefly review the report for any missed information.
- The transcription time for test results should be kept to a minimum. In this case, it was at least 36 hours from the time the test was ordered until the report was entered into the patient record.
- When a previous patient returns to a hospital ED, it is a best practice to do a brief review of the entire previous chart, both to facilitate a thorough history and to identify any unresolved issues.
- PCPs should make sure to review the discharge summaries of all recently hospitalized patients.

## Conclusion

While human errors are inevitable, they need not necessarily lead to disappointing results of treatment. The use of best practices by providers, combined with well-defined and regularly reviewed institutional processes can significantly minimize the likelihood of suboptimal patient outcomes.

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