Steps to Misdiagnosis: Dissecting an Emergency Visit

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Abstract
Despite the common sense that we learn from our mistakes, an error is an unwelcome event when we deal with patients. Diagnostic error is common, costly, and the leading cause of malpractice litigation. Yet, errors occur occasionally in a lifetime of practice, and the consequences of these faults are significant for patients and physicians. If someone would have told me that I would miss a brain tumor in my first years of practice, in a patient presenting to my care with several cranial nerve signs, I would not have believed it. Here is how it happened.

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D espite the common sense that we learn from our mistakes, diagnostic error is an unwelcome event when we deal with patients. Besides being the leading cause of malpractice litigation, it increases disability and death and affects physician well-being as part of a second-victim process.⁴ Yet, errors occur in a lifetime practice, and knowledge gaps are rarely a cause.⁴

If someone would have told me that I would miss a brain tumor in my first years of practice, in a patient presenting to my care with several cranial nerve signs, I would not have believed it. Here is how it happened.

• Unfulfilled basic needs

That morning was unusually long. I was working at the emergency department (ED) struggling with my stomach, while I kept pushing myself to examine the last patient of “the morning.” The very last one was a woman in her midforties.

• Leaning on someone else’s judgment

The main complaint box had 1 word: otalgia. Before I asked the patient to enter the room, I reviewed her clinical record at a glance. She was a healthy young woman who presented to the ED once, 3 weeks earlier, complaining of a dry eye. This was nothing worthy of mention, if I did not know the end of the story. However, in my unawareness, that label conditioned everything that I thought afterward. As I found out later, that was not actually the main complaint.

• Transference

Although not usually considered in this equation, unrecognized emotions may be a major factor in clinical decision making—sometimes weightier than knowledge.⁵

As usual, I started the interview by asking the patient why she came to the ED that day. She replied that she needed a computed tomography (CT) scan because she had been diagnosed with a facial palsy. I immediately felt anxious. Although she was not the typical examination-demanding patient, that beginning was not what I expected.

• Premature closure

Dual processing theories mention 2 types of reasoning. While nonanalytic reasoning supports pattern recognition processes, providing quick solutions to familiar problems, analytic reasoning prevails among unfamiliar and difficult cases.⁴ Most diagnostic failures occur when an early incorrect diagnostic hypothesis emerges. While the physician endorses collecting additional data, this biased pursuit precludes consideration of other alternatives.²

When I think of otalgia at the ED, a subconscious algorithm runs 2 arms: an otologic pathology or temporomandibular joint dysfunction. While this search is of utmost importance to diagnosing accurately, time pressure sometimes drives us to skip the detailed inspection that we were taught. Even though I am embarrassed to admit it, I did not even ask her about her hearing.

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• Unexpected clinical setting

When I heard facial palsy, I immediately recognized a red flag. When was it? “Perhaps a few months ago” was the most precise answer that I could get. I did not notice any facial asymmetry, though. After closer examination, a slight weakness was barely evident, disfavoring the left side. Constitutional, I thought, and moved on.

So, why today? A CT scan need and a sense of not feeling well and having an earache, while she approached her hand and touched her left ear and face. However, everything was present for many months. There was nothing worthy of an emergency visit.

After hearing so many unspecific symptoms, I found otalgia the most palpable one. The initial algorithm kept running.

• Fitting

From all the unconscious decisions that I made with this patient, fitting was the most dangerous. This is probably the line that separates an innocent error from gross negligence. As I palpated her painful temporomandibular joint, I rested my case. “Temporomandibular joint disorder,” I said.

“Where is the pain again?” She opened her hand and pointed to her ear and temporal region. This was very typical. I rushed myself to the prescription program. Lunch was on its way.

Suddenly, she added that her face felt strange. Could it be numbness? Another red flag waved at me. It couldn’t be.

A left hemiface hypoesthesia was present. Probably the inflammation—she is being confused by irradiating pain. My diagnosis was made. I could not go back, could I?

Restarting

When physicians critically analyze their initial thinking, increased diagnostic accuracy may be expected on complex cases. This reflection counteracts the bias associated with nonanalytic reasoning.6

While I stared at her holding the prescription, I insisted. All of this was going for months. Why today?

Dizziness was probably the best medical term for what she called “something different inside the head.”

That was the moment I found the main complaint. Also, I could work with dizziness. I even had a different algorithm for it. I gave her the prescription and asked for support from the neurology team.

Inconvenient Truth

After lunch, I searched for the neurologist’s notes. The patient was still in the ED, waiting for the CT scan that she asked for. The patient had a history of left sudden sensorineural hearing loss a few months previously and progressive imbalance associated with left facial palsy and left trigeminal nerve compromise. It turned out to be an acoustic neuroma.

I was crushed! How did I miss something so obvious?

Conclusion

Medical error is common, and it frequently presents as a diagnostic error. Flaws in clinical reasoning have been identified as a major factor; however, the cognitive mechanism behind clinical decisions is poorly understood. When restarting and rethinking still cannot lead toward the right direction, asking a fresh mind to step in may be the answer.

Author Contributions

Joana Silva, research, data collection and manuscript writing; Sandra Gerós, manuscript writing and revising; Artur Conde, manuscript revising.

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