Right Brain: My first tPA

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It is the ultimate rite of passage for the 21st century junior neurology resident: administering IV tissue plasminogen activator (tPA) for an acute ischemic stroke for the first time.

It was only a few months into residency, but the telephone number that glowed on my pager, accompanied by the repetitive shrill “beep,” had become an all-too-familiar experience. However, the dreaded “911” was affixed to the emergency department’s telephone extension, indicating a “stroke code,” and signifying that dinner would unceremoniously conclude—3 bites into my slice of cold pizza.

I ran to the emergency department (ED) and was given a brief history by the ED physician, who said, “This lady is in her 70s, is demented and living in a nursing home, and comes in with slurred speech and altered mental status that started an hour ago.” I was concerned but skeptical, unsure if this was truly an acute ischemic stroke worthy of that 911 suffix.

The IV lines were placed, the bloodwork was sent to the lab, and I helped push the patient in her stretcher to the CT scanner, introducing myself and taking a quick history along the way. She immediately told me her name, extending her right hand out to shake mine. This woman did not seem to have altered mental status. The nurse agreed with me. When I moved to the left side of her stretcher, however, she did not seem to respond to my questioning. “Aha,” I said to myself, knowing that the ED physician must have talked to the patient from the left side of her stretcher, as she had hemispatial neglect. I moved back to her right side, and took a history. She told me that she was eating dinner at her subacute nursing facility, a place that she actually didn’t mind so much, and suddenly had difficulty swallowing her food, speaking clearly, and holding up her fork with her left hand. The staff there attended to her quickly, and called 911.

As she told me the events of the evening rather eloquently, although obviously dysarthric, I knew that this was a person who could be helped. She told me that she was a great Scrabble player, and read the

newspaper cover-to-cover daily. I asked her why she lived in such a facility, and she pointed to her knees. She was quite obese, and had had debilitating osteoarthritis for years.

After examining the patient, we discussed the risks and benefits of tPA, and she told me that she would only agree to it if her daughter also approved of the intervention. I complied with her request and made the phone call. Her daughter confirmed that her mother was quite intelligent, was a retired teacher, and that she would trust her to make the right decision.

I felt proud. This woman, mislabeled as “demented,” was truly enjoying her life despite her physical misfortunes. After dutifully calculating the National Institute of Health Stroke Scale score and confirming her lack of contraindications, I phoned the attending stroke physician on call. After a brief discussion, we agreed that giving tPA was the appropriate next step. However, he was unable to come to the ED prior to the infusion as he was involved with another neurologic emergency at a sister hospital.

As the infusion began, the patient and I stared wondrously at the tPA bottle, and were mutually optimistic. I sat down to write my note within eyesight of the patient, and as the infusion completed, I went to the neurology floor to write the admission orders. Before I was even able to reach the floor I received a frantic page from the ED, stating that the patient was being intubated. I ran down the 10 flights of stairs back to the ED, and from 50 feet away I could see that my patient’s lips, face, and eyelids were markedly swollen, although much better than 5 minutes prior, according to the ED attending physician. “She had an allergic reaction to the tPA, so we gave her IV diphenhydramine, methylprednisolone, and subcutaneous epinephrine, and had to intubate her to protect her airway.”

As we helped transfer the patient to the intensive care unit, I was quite distraught. Here I was, a fresh, relatively new, optimistic neurology resident, who had the best intentions. Had I done no harm? Appar-

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ently not. I knew that tPA carried the uncommon but potential risk of angioedema, and that risk was magnified in patients taking angiotensin converting enzyme inhibitors; my patient was on lisinopril.¹

She recovered quite well, and was extubated the next morning. Neurologically she improved enough so that in the evening prior to her discharge, I walked into her room and witnessed a heartwarming experience: I found her playing Scrabble with her daughter, and she was trouncing her, with a smile on her face.

As a resident I gave tPA dozens of times, but as in other experiences in medicine or life, the first time may be the most memorable. For every patient eligible for tPA, I always remember that first patient, and aim to get everyone back to playing Scrabble.

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