The premonition

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I was nearing the completion of my second year of practice in neurosurgery when Mr. B was referred to me. A man in his sixties, Mr. B had been having seizures of increasing frequency for several months. Without warning, he would stop and stare, and then drool. The seizures lasted about a minute. Afterward, his wife found his speech to be slurred. He recalled some episodes from 20 years earlier, when he would become semi-conscious for 1–2 minutes. Those episodes were associated with distorted thoughts, but an overall pleasant sensation.

Mr. B was a heavy smoker but otherwise healthy. He had no family history of brain disorder. Brain imaging revealed a 3-cm mass in the left temporal lobe, one that had likely been there for some time. A cerebral angiogram showed a giant aneurysm arising from the left posterior cerebral artery.

I reviewed the findings with Mr. B, drawing a sketch of his aneurysm to help explain the situation. A previously normal artery had widened into the shape of a thick bratwurst sausage.

One in three giant aneurysms will rupture within five years, but many behave like benign tumours, lurking silently for months or years beneath the brain, eventually strangling brain structures, compressing the nerves for vision, or causing seizures like those experienced by Mr. B.

Mr. B was very keen to have treatment. I conveyed two options. The first was traditional open surgery, a procedure that had been honed and perfected since it was first performed in 1931. Even so, it would be a daunting undertaking to reconstruct the posterior cerebral artery to maintain its patency. The second option was a newer endovascular approach, which involved going up through an incision in the femoral artery to obliterate the aneurysm with detachable coils. Mr. B favoured the second option.

The evening before surgery, I visited Mr. B in hospital for a few precious moments between patient and surgeon. He had something to tell me, but he was hesitant. With a little coaxing, he began to describe another more recent spell, different from the rest. He had been sitting at his kitchen table after dinner. Suddenly, he felt like he was somewhere else. He was standing in an unfamiliar place, in the middle of a road. The light was unusually bright. Standing in front of a house with a white picket fence were three figures wearing hoods, so he could not see their faces. One pointed at him. Another was shaking his head, as if saying no. Then he was back at his kitchen table as if nothing had happened.

He finished his story, then asked me whether this new spell was a seizure. He asked me what it meant. He wondered if he should be worried. I was taken aback. Once, when I was a resident, a patient had died suddenly after a carotid endarterectomy. Upon receiving the news, his wife said that, just before his surgery, her husband had said something to her he had never said before. “Say goodbye to the dog.” To her, it meant he had known something was going to go wrong with the surgery.

But Mr. B’s story was not like any I had encountered before. Retired from a skilled trade, he was not given to embellishment. The description was unusual and not like a complex seizure; it sounded real. It seemed like a harbinger, a forewarning, but I wanted to help allay his anxiety. I told him that I didn’t think his visions meant anything. I suggested he could have been having a different type of seizure, since a giant aneurysm on the posterior cerebral artery can cause complex seizures and visual symptoms. I told him I was confident about the treatment. Mr. B appeared reassured. I bade him a good night.

The story would soon take on new meaning, and it would stay with me for the next 30 years.

The next day, with Mr. B under general anesthesia, I cleansed and draped his right thigh, and passed a long needle through the skin, aiming for the femoral artery. I advanced a catheter via the artery to the left side of the neck. Through it, I introduced a second, much smaller, catheter. As I approached the aneurysm, though, things became difficult. It became impossible to navigate the guidewire any further. It curled and buckled. I started to sweat a little. Rather than force things, I opted to leave the catheter there. I changed my plan and coiled the artery as it was going into the aneurysm rather than coiling it inside the aneurysm itself. Cutting off the blood flow just upstream should work just as well as cutting it off within the aneurysm, I thought.

I took another image to make sure the coils would deposit in the correct spot. To my dismay, I saw an active bleed near the tip of the catheter. The blood spread like a slow-moving tsunami, outlining the left thalamus. An active bleed is one of the worst disasters in the endovascular treatment of a brain aneurysm. It is even worse than a bleed during open brain surgery, because the bleeding cannot be easily stopped. I proceeded to quickly place coils inside the artery to slow down and stop the bleeding. Time was of the essence.

Fortunately, the coils deposited smoothly. But my relief was short-lived. A few moments later, I realized that the posterior cerebral artery, where I had thought the catheter was, lay overtop a smaller, critical artery. The two arteries — directly superimposed on the two-dimensional fluoroscopic image — created the illusion that the catheter lay inside one rather than the other. Although coiling the smaller artery had been necessary to prevent further bleeding, it

looked like it might also interfere with the normal blood flow to the left thalamus. In the heat of the moment, I was not sure. I completed the procedure quietly and calmly, but within minutes, Mr. B began showing signs of a major stroke. His right side was paralyzed, and he could not speak. He needed intubation.

My first reaction was denial. I hoped against hope that the complication was temporary. Mr. B improved a little, but he had a vertical gaze palsy, with diplopia requiring an eye patch. He had a head-shaking tremor. He was able to understand some speech, but could follow only simple commands and gesture to yes or no questions. He required a long-term tracheostomy and gastrostomy tube. He remained paralyzed on one side. On the other side, he could squeeze a hand but was uncoordinated. Mr. B's wife and I discussed the gravity of the situation — including how the aneurysm was still untreated. We decided to allow Mr. B time to see if he might recover, but even with therapy, he made little or no progress during the first months after the procedure.

During those early days, I remember seeking support from a few colleagues. In the words of one older surgeon, I had probably "ruined" Mr. B and I had "blood on my hands." Another surgeon, closer to me in age, said, "Remember: the patient is the one with the disease." These comments, while both true, were not overly helpful. As a young surgeon, I remember feeling alone, trying to accept that I had done the best I could.

The patient is the one with the disease. A surgeon is human. Failure occurs. One's grief should not fester like a disease that might impair providing the best care to others.

Mr. B ultimately regained a little use of his right side, but he never left hospital. He died several months later. His untreated aneurysm never ruptured. The experience will forever stay with me.

Months after Mr. B's death, I thought about his strange premonition again. His story foretold that something bad might happen. Any neurosurgeon treating brain aneurysms or other conditions such as tumours will encounter disasters like the one I've described; fortunately, they are few and far between. But I never again saw a complication similar to Mr. B's, and I never again heard such a premonition. I am left to wonder if there was some connection between them, something beyond understanding.

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To maintain confidentiality, all names and identifying information have been anonymized.

This article has been peer reviewed.