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A Home Diagnosis

One of the things I like best about my work in clinical medicine is the occasional complete surprise that results from an unexpected diagnosis or response to therapy. Recently, I had what has to be the most remarkable and happy surprise during my long career in clinical medicine. It involved a woman of 83 years who had been a patient of mine for 2 decades. She was the wife of a retired surgeon who had helped to found our medical school. I saw her initially because of poorly controlled hypertension and the new onset of atrial fibrillation with a rapid ventricular response of 140 beats/min. After a number of various antiarrhythmic drug combinations and a cardioversion, she ended up in stable sinus rhythm taking 200 mg of amiodarone per day. She felt normal with this regimen and continued her active lifestyle, which included exercising at a local health club. After 15 years in stable sinus rhythm, I discovered during a routine follow-up office visit that despite her continued amiodarone therapy, she had reverted to atrial fibrillation with a heart rate of 85 beats/min. She was asymptomatic, and so we decided to accept chronic atrial fibrillation status. I stopped her amiodarone and controlled her heart rate with daily metoprolol. Of course, she continued taking warfarin, which had been started 15 years earlier at the onset of her atrial fibrillation.

I can hear the readers thinking at this point, "What's the big surprise? We see this sequence every day!" Please be patient, the big surprise is about to unfold. Last year, after 4 uneventful years in atrial fibrillation with a well-controlled heart rate, she presented to the clinic reporting exhaustion and a 60-pound weight gain over a period of 6 months. She and her husband told me that she had been sleeping very poorly during this time because of constant episodes of repeated coughing. Her physical examination was remarkable for widespread edema associated with her 60-pound weight gain. My initial diagnosis was heart failure possibly resulting from hypertension or amyloidosis of the elderly or asymptomatic ischemic heart disease. We performed an echocardiogram and electrocardiograph during that visit. They revealed a normal left ventricular ejection fraction (50%) and normal wall motion, mild pulmonary hypertension, and marked tricuspid regurgitation. Her right atrial pressure was estimated to be mildly elevated. Her electrocardiogram was normal except for atrial fibrillation with a heart rate of 85 beats/min. My working diagnosis at that point, given her age, was heart failure with normal ejection fraction, etiology unclear.

My therapy at that point involved continuing the metoprolol and lisinopril that she had been receiving for many years for control of her blood pressure and heart rate. I added furosemide and dietary salt restriction to her program. Because her fingertip oxygen saturation was 88% during that office visit, I also ordered continuous supplemental nasal oxygen therapy. When I saw her soon thereafter in follow-up, diuresis had resulted in a 25-pound weight loss, but she was still edematous. She reported that her nightly coughing spells had not improved despite the current therapy. She also reported that home oxygen saturations had hovered between 88% and 90%. At this point, I considered chronic or recurrent pulmonary embolism, but discarded this diagnostic possibility because she had been well anticoagulated for years and her right ventricular function by echocardiography was normal. I also doubted the diagnosis of ischemic heart disease because she always had a normal lipid profile and had undergone a negative stress test a few years earlier. I finally entertained the possibility of some form of occult pulmonary disease and ordered pulmonary function tests and a consultation with one of our pulmonologists.

She returned for a follow-up visit 6 weeks later and miraculously had resumed the weight she had before the present illness. She was happy and energetic, with all of her edema resolved. She reported that she felt normal again and was sleeping through the night without coughing. I was completely amazed at this turn of events, and I asked her what she had done that resulted in such a remarkable recovery. She pointed to her husband and said, "He solved it!" The story at this point was truly remarkable. Her husband had discovered that there had been a water leak in the wall behind their bedroom chest of drawers and black mold had grown on the plaster. Black mold is a particularly malicious organism that develops only in damp conditions. Here in Arizona, it grows on indoor walls that are chronically damp, usually the result of leaky plumbing. Inhalation of components of black mold often causes a severe allergic reaction accompanied by bronchoconstriction. When the black mold was discovered, my patient and her husband had quickly called in exterminators who had arrived wearing hazmat suits, sealing off the bedroom and removing the affected wall. The leaky pipe was repaired, and my patient and her

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husband resumed sleeping in their bedroom again. All of my patient's symptoms resolved over the next 3 weeks: She had a massive diuresis, she stopped coughing at night, and her fingertip oxygen saturation increased to 94%. She resumed all her daily activities and told me that she felt "great."

My patient is not the first individual that I have seen here in Arizona with allergic and pulmonary manifestations related to a black mold infestation. However, her story is clearly the most remarkable. When I recounted this story to my cardiology and pulmonary colleagues, they all remarked that this was a highly unusual but wonderful case history and that I should share it with the readers of ***The American Journal of Medicine***. By the way, I congratulated the husband several times for making the diagnosis when I had failed! I love to tell my residents about this woman because, once again, it shows that most of the information leading to a diagnosis lies in the patient's history.

As always, I enjoy hearing from readers about this story or any other comments that I have made in ***The American Journal of Medicine*** over the years of my editorship. As always, I welcome responses and reader anecdotes on our blog at amjmed.org.

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