

Twelve Long Years: The Perils of PSA Testing

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This story starts in 2002 with a 65-year-old Nigerian man who had just lost his wife unexpectedly. He was grappling with his own mortality and had no medical problems. He travelled to Chicago to visit his son, who is an internist. He visited a primary care physician who performed a detailed examination and ordered tests. At that visit, the physician had talked about PSA testing risks and benefits. Though inclined toward getting a PSA test, the patient felt the final decision was up to his son the internist. This is where I come into the story, for the patient in question is my father. I supported the decision to get a PSA level checked. This was 2002, and most authorities then were pro PSA testing for men over age 50, more so in black men.

All tests came back normal except for a PSA of 26, and this is where our troubles began. “What does this mean?” he asked his son the internist. “Do I have cancer?” Though I was not his primary physician, I had recommended the test. The lines were blurred now; I would have to help him navigate this. He had just lost his wife; I and my siblings had just lost our mom, and we were faced with a potential cancer diagnosis.

My father had no symptoms of prostatitis to explain his elevated PSA. I was concerned about prostate cancer. According to the International Agency for Research on Cancer (World Health Organization), prostate cancer is the most common cancer among men in 111 countries worldwide. The incidence rate in blacks is greater than in whites, with men of African ancestry having the highest incidence. According to the American Cancer Society, a man’s lifetime risk of developing prostate cancer is 15% and dying from it is 2.7%.

The cornerstone of diagnostic reasoning is assigning an appropriate pretest probability to a clinical scenario. A man’s lifetime incidence of prostate cancer is 15%; my dad was 65 years old, African, and had an elevated PSA. A PSA of at least 20 has a positive likelihood ratio of 28 for diagnosing prostate cancer.¹ Based on all this, my gut feeling was that my dad had a 75% to 80% probability of having prostate cancer diagnosed on biopsy. In fact in my mind it wasn’t a question of whether he had cancer—it was a case of whether it was localized or not. Men with prostate cancer and a PSA greater than 20 have a 16% probability of having bone metastasis.² I explained all this in the most positive way I could. He had a biopsy. The biopsy revealed BPH and high-grade prostatic intraepithelial neoplasia (HGPIN) and adjacent small cell acinar proliferation (ASAP) suspicious for malignancy. What did this mean? It was as clear as mud to us. My father was suspended. Did he have cancer? Was this reassuring? Anxiety started to creep in. I scoured the literature and gathered that the mean risk of cancer following a diagnosis of HGPIN is 25%. Of such cancers, 80% to 100% are diagnosed on the first repeat biopsy.³ As sinister as this may sound, the cancer risk following HGPIN is not different for men with a first benign biopsy; experts recommend a repeat biopsy in one to three years. ASAP, on the other hand, was a different story—the average risk of cancer after this finding is 40% (range: 17% to 70%), and 90% of such cancers are found on the first repeat biopsy.³ Experts recommend a repeat biopsy in three to six months after a finding of ASAP.

Back to my father. His urologist sent his slides for a urology pathologist review, which did not agree with

the general pathologist’s findings of ASAP and HGPIN. My father had an elevated PSA, and his biopsy was negative. Had we missed a diagnosis of cancer? How many biopsies are enough? Could this be due to BPH? My father grew more anxious. The yield of a first prostate biopsy in patients with cancer is about 66%, and 90% of cancers are detected on the first two biopsies.⁴ There is a lot of overlap in the interquartile (middle 50%) range of PSA in BPH and prostate cancer, thus the absolute PSA level has a poor ability to distinguish BPH from cancer.⁵ I felt bad. My father came to me for some reassurance about his mortality, and I left him with extreme uncertainty. We sat down to talk. Had we missed a diagnosis of cancer? Maybe. How many biopsies are enough? Two. Could this all be due to BPH? Maybe.

Back in 2003, the endorectal MRI was gaining traction. My dad had one that showed a lesion with disruption of the prostatic capsule and invasion of the neurovascular bundle. This lesion was biopsied. Over the next 10 years, his PSA continued to rise to a level of 223. In a span of 10 years, he had undergone seven negative biopsies that were reviewed by at least eight different pathologists. There was no evidence of local or distant disease based on bone scans, MRI, or CT scans. I could not explain his high PSA. The uncertainty was worse than the diagnosis for my dad. His levels of anxiety and rumination continued to rise. Nothing I could say could definitely subdue his anxiety. He asked his urologist and me, “Should I just be treated for cancer?” His urologist did not think treatment was indicated given side effects and absence of a clear diagnosis. I agreed with this.

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Finally, in 2014, a repeat PSA was 398, and a bone scan and CT revealed multiple osteoblastic lesions. He seemed relieved by the news; he could finally let go of the uncertainty. Honestly, I felt the same way. He did not want any more biopsies. In consultation with his urologist, a clinical diagnosis of metastatic prostate cancer was made, and he started hormonal treatment. It took us 12 years at a tremendous emotional toll to get here.

This has been a long journey and struggle for father and son. I am glad I was, and will always be, there to support my father. Should I feel guilty for recommending the PSA test in the first place? As a 42-year-old man, should I check my

own PSA level? Would you? Our story underscores the importance of involving patients in the decision to proceed with PSA screening, as recommended by various expert bodies.

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