

The Major's PSA

The Major had been wounded in Vietnam and jailed in the Congo. He does not scare easily. Now, as he reported his blood PSA, he was audibly scared – he thought his prostate cancer had returned. PSA scared the Major more than Viet Cong and Mobutu.

PSA, prostate-specific antigen, is a protein secreted into semen by the prostate, a pelvic organ specifically of men, not women. In one in six men, the prostate develops cancer. We measure PSA in blood to gauge the risk and return of prostate cancer.

As the Major spoke about his PSA, I thought of JJ. An unassuming pathologist, JJ had surprised us long ago by finding PSA in women – where it did not belong because women do not have a prostate. JJ had found PSA in Skene's glands, tiny organs in the female urethra; the urethra is the tube through which the bladder empties and around which in men one finds the prostate.

Others then found PSA in liver, thymus, human milk – you name it. As JJ and others had shown, prostate-specific antigen is poorly named. Prostate-specific antigen is a prostate nonspecific antigen: We find it everywhere.

So why do we check PSA? Because we're not really checking for prostates – we know men have those – we're checking for prostate cancer. The higher the PSA, the higher the chance of prostate cancer.

Is a high PSA the same as having cancer? No. PSA is not a diagnostic test. PSA measures risk. Being at risk of something is not the same as achieving it. A savvy man appreciates the value of knowing his risk. A savvy man knows his cholesterol, blood pressure and PSA.

The savvy Major had properly checked his PSA so as to gauge his cancer's status after his radical prostatectomy: surgical excision of the prostate as treatment of localized prostate cancer. For a while, the Major's PSA had been less than 0.1 ng/ml, which meant there was no sign of recurrence.

One day before his panic attack, the Major noticed that his urinary stream was slowing. At the rate it was slowing, the Major was at imminent risk of complete

urinary obstruction. The surgeon who had performed his radical prostatectomy was too far away to help. That is how I met this hand-me-down vet.

The Major had a slow stream because of a scar at a suture line. When radical prostatectomy is done, the prostate is removed from between the bladder and urethra. The bladder is then sewn back directly to the urethra. Here, a scar forms, at times so dense that it interferes with urination. Under anesthesia, I incised the scar, which would fix the problem. I promised a smooth course. I was wrong.

A few days after the urethral scar incision, the Major saw his internist. A PSA blood test was ordered. That's when he called me in a panic: "The PSA is 4.6 ng/ml – the cancer is back!"

It took all my effort to persuade the Major that his alarm was false. It took a lot of hand waving and explanations. I had to teach him the fundamentals of PSA: It is not prostate specific. I assured my marveling Major that as the urethral incisions healed, the PSA in his blood surely was produced by non-prostatic organs and would drop again, which it did.

No major harm came to the Major, aside from tortured, sleepless nights. Today we can chuckle; then, we could not. Circumstances forced upon the Major a rare lesson in esoteric human anatomy. That lesson is painfully delivered from time to time to others.

The Major's story forces a vital lesson: The use of PSA, as the use of any tool, should be informed.

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