

## **MEditorial October 2009**

### **PSA: “Cool Your Jets”**

**PSA (Pacific Southwest Airways) in a way had its “jets cooled” when, through an acquisition/merger, it was integrated some 20 years ago into US Airways. I flew PSA many times, and perhaps was cheered up (and my mild flying anxiety relieved) by the “smile” painted onto the fuselage below the cockpit windows.**

**Interestingly (and probably not involving any patent infringement concern over the initials), the blood test PSA (prostate specific antigen) came on the scene clinically, also in the mid- to late 1980’s, just as PSA airlines was “waving goodbye”. Despite complaints about the inaccuracy of this PSA blood test, historically it has helped detect prostate cancers early, and on balance, has saved lives. Before its existence, we would diagnose prostate cancers based on more advanced disease, often discovered by feeling a lump in the prostate gland. Nowadays, prostate cancers are usually diagnosed well before the gland “feels hard”.**

**The public is now quite knowledgeable that PSA, like a lot of medical tests, is imperfect and leaves a lot to desire. It needs careful interpretation by the physician, whether that be a urologist or primary care doctor. Somewhat newer variations, e.g. “PSA-2” which gives a free/total PSA ratio, is somewhat helpful in determining the need to biopsy and likelihood of cancer--especially in men whose PSA is mildly elevated. We can also tweak the PSA (and likely be more selective about which men undergo biopsy) by looking at such iterations as PSA density (PSA divided by the volume of the gland as measured on prostate ultrasound) and PSA velocity (change of PSA over time).**

Newer prostate cancer screening tests in the pipeline, not yet released to us for clinical use, include the “six gene molecular assay” and the “EPCA-2”. The latter, an assay for early prostate cancer antigen, is said to pick up a high percentage of prostate cancers--even in men who have cancer with a normal PSA-- and to be > 90% accurate in predicting that a man whose test is normal does not have prostate cancer. Interestingly, the EPCA blood test is now hung up in litigation, over a claim by a bioengineering firm that the sanguine data presented regarding the accuracy of this test by the primary university investigator was flawed at best--and “intentionally forged” at worst.

I think it is important to have some perspective when looking at PSA results. Unless the PSA is very high, at least teens to >20, it is always best to assess the value in relationship to prior PSA results. Many men have fluctuating PSA's; and we may find a PSA similarly elevated 5 years ago as it is now. Variation in PSA's is common; and spontaneous increases and decreases can be associated with prostate inflammation (prostatitis) the symptoms of which may or may not be apparent to the patient. We frequently see men with fluctuating PSA's whose only sign of low grade prostate inflammation is the presence of an abnormal urinalysis, with white blood cells noted.

Prostate cancer in its usual form is really a chronic disease, and deaths from it within 10-15 years of its discovery are rare. At my hospital, the 10 year mortality rate for localized prostate cancer (including cases post-facto not felt to be cured by surgery or radiation) is zero. This is a good reason for older men (70-75 or older) and any man with a life expectancy limited to less than 10-15 years, to think twice about even having a prostate biopsy for an elevated PSA, let alone undergoing an aggressive intervention aimed at prostate cancer cure. Many prostate cancers I see in the elderly DO act more like a benign disease, do not

**progress, and are clinically inactive. These patients probably do better and live far healthier and happier for NOT having had their PSA investigated.**

**There are studies showing that prostate cancers diagnosed too late and not cured will reduce longevity; but the degree of shortening of lifespan is most concerning to the population under 60. Most of these studies do not show much more than a 5 year difference in lifespan between those treated/cured and those either not treated or not cured. This applies to prostate cancers felt to have been discovered early --and not to advanced disease (which is a fairly rare initial presentation).**

**Some informed urologists take the view that most prostate cancers have, time-wise, a wide “window of opportunity” in which to make the diagnosis, e.g., many months to even a few years, without compromising the patient’s health. To the contrary, men with very high PSA’s and the aggressive rarer forms of prostate cancer may succumb to the disease even if it diagnosed by biopsy right away and treated soon thereafter.**

**One must also factor in the cost/inconvenience and potential risk of prostate biopsies needed to make a definitive diagnosis. For example, rarely, some men will get serious bacterial infections after a biopsy and require hospitalization. In other cases, the biopsy itself may lead to a chronic prostatitis condition whereby even if the man has no symptoms, the PSA may go to a higher level and fluctuate, possibly causing further concern and the recommendation for further biopsies!**

**Since prostate cancer is mostly slow-growing and consistent with a long lifespan; and many biopsies especially in the US (where there is a low threshold to do a biopsy) are “negative” or essentially normal, I feel men should “cool**

their jets" a bit--and not be overly worried about slight increases in PSA's-- whether these be within the range considered normal for a man's age or elevated above the norm. Having a somewhat "longer lens" on these PSA results seldom compromises outcome/leads to unnecessary deaths--but it does give the "thinking" urologist better perspective so as to carefully select out those men who really will benefit from biopsy and potential "curative" treatments for prostate cancer.