PSA Bounce Following Radiation

Compiled by Charles (Chuck) Maack – Prostate Cancer Activist/Mentor

Disclaimer: Please recognize that I am not a Medical Doctor. I have been an avid student researching and studying prostate cancer as a survivor and continuing patient since 1992. I have dedicated my retirement years to continued research and study in order to serve as an advocate for prostate cancer awareness, and, from a activist patient's viewpoint, to help patients, caregivers, and others interested develop an understanding of prostate cancer, its treatment options, and the treatment of the side effects that often accompany treatment. Readers of this paper must understand that the comments or recommendations I make are not intended to be the procedure to blindly follow; rather, they are to be reviewed as my opinion, then used for further personal research, study, and subsequent discussion with the medical professional/physician providing prostate cancer care.

When cancer cells are radiated, and as the DNA is damaged in the cells, it isn't the radiation itself that kills prostate cancer cells. Radiation works by damaging the DNA molecule in a cell producing fatal damage so that when the cell comes to divide into two cells (mitosis), these off-spring cells have fatally flawed genetic information and so they are not viable cells. They either die at mitosis or peter out after a few generations. As the cells die, they emit PSA, so for some time that PSA may not be moving very much in receding to an eventual lowest level (nadir). And from what I have researched and studied, the longer it takes to reach nadir, and as long as it keeps dropping – except for a "bounce/bump" that may occur – the better. So should there be a bounce/bump where the PSA is elevating, do not jump to the conclusion that the radiation has failed. That bounce/bump could be the effect of several cancer cells dying off at the same time.

PSA after IMRT and/or Seeds.....The preferred PSA after radiation is in the less than/equal to 0.2ng/ml range. However, the maximal effect of RT is said to be about 1.5 years to reach the lowest PSA level (nadir), so reaching your lowest nadir could take some time. I have in my files an email from one man who didn't reach his nadir, which was finally 0.75ng/ml, for four years following seed implant. Higher than the "preferred" 0.2ng/ml, but had a continuing down trend with one "bump/bounce" nine months after the seeding. Know of another that it

took six years. Radiated cancer cells can continue dying off over this time frame. According to the information below, the longer it takes to reach nadir, the better:

A greater nadir PSA following radiation therapy or a shorter time to PSA nadir were both associated with worse outcome, the authors wrote.
Eight-year survival rates were:

- 75% biochemical and clinical disease-free survival for patients with PSA nadir of less than 0.5 ng/mL and 97% distant metastasis-free survival.
- 17% biochemical and clinical disease-free survival for patients with PSA nadir of 2.0 ng/mL or higher and 73% distant metastasis-free survival (P<.0001 for decreased survival as nadir PSA increases).
- A shorter time to nadir was associated with decreased survival, regardless of PSA nadir achieved.
- Patients who reached PSA nadir in 24 months or longer had biochemical and clinical survival rates of 75% and a 99% distant metastasis-free survival.
- Patients who reached PSA nadir in less than six months had a biochemical and clinical survival rate of 27% and a distant metastasis-free survival rate of 66% (P<.0001 for decreased survival with shorter time to nadir PSA).

The authors pointed out that this study represents the largest published study of PSA nadir and time to nadir in this population.
They wrote that the study confirmed the validity of multiple PSA measurements following radiation therapy. "Although [nadir PSA] is a useful prognostic factor, a single [nadir PSA] cut point cannot separate successful from unsuccessful treatment," they concluded.
"No threshold of post-radiation therapy PSA level exists that defines, or is required for, total tumor cell eradication. [Nadir PSA] alone provides valuable prognostic information, but subsequent PSA measurements improve the specificity of the 'biochemical failure' definition."

FULL ARTICLE:
http://www.medpagetoday.com:80/HematologyOncology/ProstateCancer/tb/2883

HERE IS INFO REGARDING PSA BUMP/BOUNCE AFTER RT:
You should also be aware that somewhere in the future you may experience a "PSA Bump" or "Bounce." Here is some lengthy information that should help you understand what to expect and not be alarmed. Importantly, to make sure your physician doesn't jump to recommending androgen deprivation thinking that you had RT failure.

The PSA bounce – does it have clinical significance?
http://www.psa-rising.com/med/ebr/psabounce1004.htm