

PROLACTIN LEVEL

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

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 voluntarily 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. There is absolutely no charge for my mentoring – I provide this free service as one who has been there and hoping to make your journey one with better understanding and knowledge than was available to me when I was diagnosed so many years ago. 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 your prostate cancer care.

Check fasting prolactin level since prolactin SENSITIZES the AR (androgen receptor) and also inhibits Dopamine thus favoring angiogenesis.

From: <http://www.drmyattswellnessclub.com/prostatecancer.htm>

“Prolactin hormone is an additional growth factor to the prostate gland, and rising prolactin levels correlate with progression in advanced prostate cancer cases. Prolactin receptors are found on prostate cancer cells, and it is postulated that these receptors may facilitate the entry of testosterone into the cell. Even with hormone ablation therapy, detectable androgen remains in the blood from adrenal sources. Blocking prolactin secretion may therefore be another method for slowing progression of the disease. It is recommended that prolactin levels be kept below 3 in all patients with hormone-responsive cancers.”

As explained by Medical Oncologist Stephen B. Strum, M.D., FACP
(Specializing in Research, Study, and Treatment of Prostate Cancer Since 1983)

I routinely check prolactin (PRL) levels at diagnosis and at intervals throughout the man's entire "history" with PC (prostate cancer). Prolactin & Dopamine are truly

forgotten aspects of ADT that can be easily manipulated with various drugs, the most common of which is cabergoline (Dostinex®). There are some drugs in medicine that are amazing faithful; you can call them HiFi or high fidelity drugs. HiFi drugs routinely work and achieve the goal desired. Even tiny doses of cabergoline consistently lower PRL levels. Therefore, I start with a half tablet of cabergoline which comes as a 0.5 mg size. The dosing is accordingly 0.25mg three times a week. In Latin that is 0.25mg tiw (thrice in week). After 4 weeks I check the PRL level & upon rare occasions if I have to ↑ the dose to 0.5mg biw (twice a week) or tiw then I do so. What we do when we lower prolactin is to raise dopamine. The desired biological effects are to reduce PRL actions and increase dopamine actions.

Prolactin actions:

- 1) acts synergistically with LH to stimulate testosterone secretion from testicles by increasing the number of LH receptors in the testis;
- 2) influences adrenal androgen formation;
- 3) enhances testosterone uptake by prostatic cells;
- 4) alters intra-prostatic androgen metabolism
- 5) increases uPA to dissolve ECM (extracellular matrix) and facilitate spread of CA
- 6) enhances angiogenesis
- 7) decreases libido
- 8) decreases cognitive function

1) Aragona C, Bohnet HG, Friesen HG: Localization of prolactin binding in prostate and testis: the role of serum prolactin concentration on the testicular LH receptor. Acta Endocrinol 84:402, 1977.

FURTHER ON DOPAMINE ACTION FOLLOWING REDUCING PROLACTIN LEVEL

Dopamine Actions:

1. Decrease sensitivity of AR (androgen receptor) via prolactin decrease
2. Improve mental clarity as a result of dopamine increase
3. Enhance anti-angiogenesis via dopamine increase
4. Increase libido via dopamine increase

Estradiol levels are not usually routinely checked by me but I do so in specific contexts. For example, if a man with PC has been treated and his PSA has been zero or flat for a couple of years and I believe he would benefit from TRT (testosterone replacement therapy) then I want to monitor TRT with certain labs, which include PSA, free testosterone & total testosterone, DHT & Estradiol (E2).

Some men have ↑ levels of T on TRT and this kicks in the enzyme AROMATASE which converts T → E2. Therefore, in such instances I will either use an aromatase inhibitor like Arimidex® (anastrozole) or Aromasin® (exemestane) or perhaps lower the dose of TRT.

Estradiol will stimulate prolactin increase so it would be a good idea to check E2 if PRL is not where I want it to be. I do not abide by the "normal" levels when it comes to prolactin but use my desired Biological End Point (BEP) as < 5 ng/ml. Almost always 0.25mg biw to tiw of cabergoline will achieve this BEP. Sadly, but expectedly, despite cabergoline being generic the pharmaceutical company that makes generic cabergoline still has an outrageous price. What has and is happening is that generic no longer equates with a major price reduction when patent rights are over. More greed.

When the people clamor for ability to have a free market i.e. democracy, capitalism, and there is competition with prices, then will we see drug costs ↓ ↓ . To find such levels of Capitalism one has to travel to Viet Nam, Cambodia and ironically other communistic countries. Irony is a way life slaps you in the face.

Stephen B. Strum, MD, FACP

Board Certified: Internal Medicine, Medical Oncology
ASCO (American Society of Clinical Oncology) since 1973
FACP (Fellow American College of Physicians) since 1979
AUA (American Urological Association) since 1998
ASTRO (American Society for Therapeutic Radiology and Oncology) since 2002
Society for Hematopathology Founding Member 1982
PCRI (Prostate Cancer Research Institute) First Medical Director and Co-Founder 1997

TERMS:

PRL – Prolactin Level
tiw - thrice in week
biw – twice in week
LH - Luteinizing Hormone
ECM - Extracellular Matrix

uPA – Urokinase-Type Plasminogen Activator (Since this is a term we often do not see and thus unaware of its activity, numerous independent studies have demonstrated that patients with low levels of uPA and PAI-I (its inhibitor) in their

primary tumor tissue have a significantly better survival than patients with high levels of either factor)

CA – Cancer

AR – Androgen Receptor

T - Testosterone

DHT – Dihydrotestosterone

TRT – Testosterone Replacement Therapy

E2 - Estradiol

PC - Prostate Cancer

PSA – Prostate-specific Antigen

Dr. Strum compares his reasoning to that of detective Jack Webb in the “Dragnet” TV series of long ago – “The facts, ma’am, just the facts.” But in this case, “The BEPs man, just the BEPs.”

All of the above puts Prolactin into the #1 spot as the most neglected hormone in discussions of men with PC and the topic of ADT (androgen deprivation therapy).

As with all medications, side effects might be experienced so patients should be aware of those side effects, and if they do occur, stop the medication and inform their treating physician. See:

<http://www.drugs.com/sfx/cabergoline-side-effects.html>

I do know of a patient taking both Zytiga/abiraterone acetate AND cabergoline at the same time who found difficulty breathing, a side effect both can cause so should likely not be taken at the same time. Certainly discuss with one’s treating physician if to continue cabergoline or consider reducing intake to once or twice a week to see if this alleviates any side effect experienced. This patient also had heart issues and experienced an exacerbation of those issues possibly from either or both of these medications. Personally, I have been on Zytiga daily and cabergoline 0.25mg every Monday, Wednesday, and Friday for over four years never experiencing the foregoing.

Something else that should be important to some men is that cabergoline is another medication that can help with orgasm problems. It blocks the release of prolactin that appears to play an important role in the refractory period after orgasm when men can’t have another orgasm for a while.

NOTE: If your insurance doesn't cover oral medications or you don't have insurance, you may want to consider ordering the generic Cabergoline from the following overseas source wherein ordering 12 of 0.5mg tablets that can be split in half for the 0.25mg dose costs around \$23.00 plus S&H or you can order 12 of the 0.25mg tablets for \$11.00 . You can order more or later order refills as needed:

<https://www.alldaychemist.com> and when opens click on "All US Brands." When that opens scroll down to and click on Dostinex. When that opens you can order.