



National Adrenal Diseases Foundation

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**Q&A'S BY PAUL MARGULIES, MD, FACE, FACP  
REGARDING CHEMOTHERAPY AND RADIATION  
TREATMENT OF CANCER FOR ADRENAL  
INSUFFICIENT PATIENTS**

(updated 8/7/16)

From: VOL. XIX, No. 4 • 2004

Q & A

by Paul Margulies, M.D., FACE, FACP

Q. Four years ago, I had an operation for colon cancer that took 37 inches of my colon out. Since then it has traveled and is now in my lungs and may be in other places. I have talked with the cancer doctors who want me to take chemotherapy. I have studied the booklets they gave me and I have determined that I will be worse off if I get these treatments. There is Emend for controlling vomiting, then there is Eloxatin and Avastin for the chemo tube. I have been to the ER quite a few times with Addisonian problems and I simply cannot face this awful intrusion into my system. I was diagnosed with Addison's disease when I was 40 and could hardly walk. I am 73 now and get along pretty well. I have secondary Addison's and take 20 mg. of Cortef daily. Could you please advise me what I should do? I am strongly tempted to take the time I have left and enjoy it.

A. The decision you have to make regarding your quality of life with chemo is a difficult one. The coincidence of adrenal insufficiency should not be much of a factor in your decision, however. You will probably need to increase your dose of hydrocortisone to handle the stress and nausea, but that is the easy part. Doubling or even tripling the dose will have marginal side effects compared to either the chemo or the cancer. I have had many adrenal insufficiency patients undergo chemo and get through quite well. Good luck.

From VOL. XXVI, No. 2 • 2011

Q & A

by Paul Margulies, M.D., FACE, FACP

Q. I was diagnosed with secondary adrenal insufficiency in Dec. of 1992 and have done very well on the hydrocortisone. My usual dosage is 20 mg in the am and 10 mg in the pm. I am also hypopit and take 100 mcg of levoxyl daily. This was all due to removal of a pituitary microandemona in July of 81 through an infertility workup. Fast forward to last Nov when I was diagnosed with stage 4 lung cancer (and never smoked). I have been given 14 whole brain radiations and one radio surgery to the brain. It has spread to the brain and liver. I was on Tarceva for a little over month, but had

steadily felt weakened, wobbly legs, almost passed out 2 or 3 times, (actually I did pass out once but then realized I also had a bladder infection), short of breath, etc. I was taken off Tarceva a week ago and feel better, but also saw my endocrinologist last Friday & I was taking too much thyroid, thus the reduction to 100 mcg every day (it used to be 4 days a week at that level & 3 days at 112 mcg). My endocrine doc has never treated a cancer patient. And we trying to find the best dosage for the hydrocortisone. Do you have any thoughts on this? I know it is complicated and you have never met me, but I would appreciate your input. Thank you for all you do for NADF.

A. Although I cannot give specific recommendations about your care, I can suggest that you and your endocrinologist try to adjust the hydrocortisone dose according to your symptoms, just as you did before the cancer. This can be tricky, however, because the Tarceva itself can cause symptoms that resemble adrenal insufficiency, including fatigue, nausea, weakness and diarrhea. Since these symptoms can respond to additional doses of hydrocortisone, be aggressive about using it, raising the dose by 10 or 20 mg as needed. One other resource you have is the oncologist. Although your endocrinologist may not have experience with cancer, your oncologist does have experience with steroids, so communicate with both doctors.

From NADF News®, Issue 4, 2013 - Q & A

Q. I was diagnosed with Addison's in 1971. Recently, I underwent surgery to treat breast cancer, followed by radiation treatment. The cancer was luckily caught in stage one. I felt great until they put me on Arimidex. After that, I felt terrible and had every symptom of my Addison's return even though I was on cortisone replacement. They took me off Arimidex, and put me on Tamoxifen. The same thing happened, and I was getting so sick that I went into adrenal crisis multiple times. Is this a known complication of those two drugs?

Answer: This is not a common event. Arimidex blocks aromatase, which is needed for the production of estrogen. Tamoxifen blocks the estrogen receptor. Neither should have a direct effect on cortisol metabolism. I suspect that the known side effects of these medications, which include aches and pains, might have felt like adrenal insufficiency. The pain itself will cause a need for additional doses of steroids.

### **Not yet published in the NADF News**

Sent in June 2013:

Q. "I'd like to know what is recommended regarding Shingles Vaccine for Addison's disease patients. Do endocrine specialists recommend that Addisonians receive the vaccine, or not?"

Shingles vaccine is made from Live Virus. In Merck Manual, the article states that persons with Addison's (Primary Adrenal Insufficiency) should avoid vaccines made from live viruses. However, we do know now that on replacement steroids we are not as immune-compromised as was once thought years ago. And we do know that shingles could be a real challenge in those of us managing adrenal insufficiency.

I am curious to find out if there might be a methodology for determining our body's response ahead of time—a small sample of the vaccine injected, for example, then some bloodwork to investigate our immune response.

Thank you for your thoughts on this.”

A. “I'm really not concerned about the use of a live virus in Addison's disease. Shingles is more likely to occur in older individuals. I consider the immunization an option for people with Addison's unless they are acutely ill or have other immune issues such as cancer chemotherapy or biological drugs for diseases like rheumatoid arthritis or psoriasis.”

Sent in August of 2015:

Q. "I was recently diagnosed with secondary adrenal deficiency and hypothyroidism. I received these conditions from the cancer drug Yervoy.”

A. “He is correct. Yervoy is a new cancer drug approved for metastatic melanoma and being tried now in several other cancers. It has been found to cause secondary adrenal insufficiency and secondary hypothyroidism by inhibiting the pituitary. There is not much information available about whether these effects are permanent or temporary.”

Sent in November 2015:

Q. “I have been researching this medical condition as my 15 year old niece was diagnosed with it a year ago.

The tumours found on her adrenal glands were found to be benign and were never removed.

All of the research I have obtain indicates when tumours are found whether or not they are benign they are removed immediately. Is this correct?

Also in this case where the tumours were found to be benign would this mean that this is NOT considered to be a rare form of cancer?

Thank you”

A. “If the diagnosis of pheochromocytoma is confirmed, the tumors should be removed because of the risk of severe episodes of high blood pressure. Most pheos are benign. If pheos are found in both adrenals, especially in a young person, there is a high probability that this is a genetic disorder. The endocrinologist should do genetic testing for familial pheochromocytoma and MEN 2. Also, refer her to the pheo pamphlet.”

Q. "Secondary Adrenal Insufficiency for 15 years; dx due to inhaled glucocorticoids (flovent). Have had 3 surgeries this year; may need another in a month (cancer). history-Breast cancer, hypothyroidism-levothyroxine 1/2 tab of 125mcg/daily, secondary adrenal insufficiency-dexamethasone 0.5mg/daily, florinef 1/4 tab of 0.1mg/daily.

Two of my surgeries this year the anesthesiologist has given me 8mg decadron and I have done well. I think because of the long half-life which I feel is a good thing. I did take my florinef about 1 hour prior to surgery without food or water on my own and told the anesthesiologist. I do request Solu-Cortef and gave the anesthesiologist the recommended dose per my endocrinologist. They don't want to give Solu-Cortef even if I bring my own from home.

The staff always want to give me LR and I have to request NS and then explain about my adrenal crisis (hyponatremia) with LR after my cholecystectomy because again the anesthesiologist would not listen to me. (Maybe next surgery I should check and see if the anesthesiologist is wearing ear plugs!)

Question: Should NADF consider recommendation changes for surgery and switch to decadron and have the patient take florinef like I've done? Is Solu-Cortef recommended due to the Mineralo-Corticoid Potency? If so, then how can I get the anesthesiologist to listen to me!!! I just mailed the recommended information from Dr. Magulies to the Quality Department and Anesthesiology Department. I'll see if I get a response.

Thank you. You provide a great service and support. I would have been lost over the years without NADF and especially when I was first diagnosed.

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### COMPARISON OF SYSTEMIC CORTICOSTEROIDS

Drug Equivalent Pharmacologic Dose (mg) Mineralo-Corticoid Potency<sup>1</sup> Biological Half-Life (hrs)

HPA Axis Suppression (mg)<sup>2</sup>

Hydrocortisone (Solu-Cortef®) 20 2+ 8-12 20-30

Cortisone 25 2+ 8-12 25-35

Prednisone

(Deltasone®) 5 1+ 24-36 7.5

Methylprednisolone (Solu-Medrol®) 4 0-0.5+ 24-36 7.5

Dexamethasone (Decadron®) 0.75 0 36-54 1-1.5

<sup>1</sup>Mineralocorticoid effects are dose related; at doses close to or within the basal physiologic range for glucocorticoid activity, no such effect may be detectable.

<sup>2</sup>Daily dose that usually leads to Hypothalamic-Pituitary-Adrenal (HPA) suppression”

A. “In response to the email, I am surprised that she is using dexamethasone and a small dose of fludrocortisone for chronic replacement. The very long duration is not physiologic and much harder to titrate. A switch to hydrocortisone in a split dose would probably avoid the need for the fludrocortisone. The insistence by the anesthesiologist on dexamethasone is odd. It is commonly used for neurosurgery, when it is useful to prevent brain edema, but in most other types of surgery it offers no advantage. I agree that normal saline as an IV fluid is preferable to lactated Ringers solution and avoids the need to think about adding fludrocortisone. I see no reason to revise the guidelines from NADF.”

***NADF does not engage in the practice of medicine. It is not a medical authority, nor does it claim to have medical knowledge. In all cases, NADF recommends that you consult your own physician regarding any course of treatment or medication.***