

ADRENAL FATIGUE – STAGE THREE

Sex hormone imbalance Gluten & food sensitivity Immune system dysfunction

Michael (name changed)
Age 43
Businessman between London & Switzerland

Michael came to me with severe fatigue and an inability to lose weight. In fact, he explained to me that when he did exercise, he actually began gaining weight. Michael was also suffering from an inability to sustain an erection. This was causing him a lot of anxiety. He also had a history of low calorie dieting.

Michael was spending a lot of time travelling between Switzerland and London and was finding it difficult to eat healthily. The travelling and being away from home was also quite stressful.

You can see from his adrenal results that his body was no longer coping with stress very effectively. His morning levels of cortisol were very low indeed (a reading of only 4), which explained why he was struggling to wake up in the morning. His total cortisol reading for the day was just 16, when ideally it ought to be 30+.

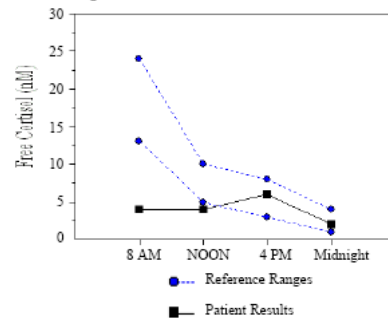
You can also see that his DHEA levels were also low. Ideally, the DHEA level needs to be at 6 or above to show healthy adrenal gland function. The fact that Nic's cortisol and DHEA levels were low indicated that his adrenal glands were very tired indeed.

Test	Description	Result	Ref Values
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ASI Adrenal Stress Index

TAP Free Cortisol Rhythm				
07:00 - 08:00 AM	4	Depressed	13-24 nM	
11:00 - Noon	4	Depressed	5-10 nM	
04:00 - 05:00 PM	6	Normal	3-8 nM	
11:00 - Midnight	2	Normal	1-4 nM	
Cortisol Burden:	16		23 - 42	
The cortisol burden reflects the area under the cortisol curve. This is an indicator of overall cortisol exposure, where high values favor a catabolic state, and low values are sign of adrenal deterioration.				

Figure 1. Circadian Cortisol Profile



DHEA Dehydroepiandrosterone				
Pooled Value	3	Borderline		Adults (M/F): 3-10 ng/ml

Because I know that most men's sexual health problems stem from nutritional or hormonal imbalances, I also suggested that while we were testing Michael's adrenals we should test his sex hormone levels as well.

Progesterone	28	Male (adult): 5-95 pg/ml
Free Testosterone	25	Male (41-50 yrs): 40-70 pg/ml

Michael's testosterone and progesterone levels were on the low side. You can see that his testosterone value was only 25. Ideally it should have been up above 50. The progesterone levels were at the low end of normal.

This is what happens:

- Stress causes the adrenal glands to produce more stress hormones - cortisol and DHEA - in response to the stress.
- If the stress is prolonged, the adrenals start to get tired. At this point, the DHEA levels will tend to start to drop and some cortisol values will also be abnormal (too low).
- If the stress continues, the adrenal glands will become weakened to the extent that they will not be able to produce sufficient stress hormones, cortisol and DHEA.
- The stress response is basically a survival response ('Fight or Flight'). Survival is more important than sex, so stress hormones are made at the expense of sex hormones.
- Cortisol is made from progesterone, so if the body needs lots of cortisol to deal with the stress, the progesterone will be constantly converted into cortisol and this can cause a progesterone deficiency. In women and men this can cause many problems.
- Testosterone is made from DHEA and progesterone in the adrenals. If DHEA and progesterone are low, then testosterone cannot be made in sufficient amounts. This causes low energy, muscle loss and loss of sex drive. It can also cause erectile dysfunction.

Basically, Michael's problems all started from the stress his body was under. Michael also tested positive for gluten & egg sensitivity:

Gliadin Ab, SIgA	19	Positive	Borderline: 13-15 U/ml Positive: >15 U/ml
Milk (Casein) Ab. SIgA		Negative	Normal: Negative.
Egg (Albumin) Ab. SIgA		Positive	Normal: Negative.

Gliadin is a substance that is found in gluten. Gluten is in grains such as wheat, barley, rye and spelt. People who are gluten sensitive have a reaction in the intestine involving an enzyme, which causes inflammation in the intestinal lining. This hidden inflammation causes further stress on the adrenal glands, which results in more stress hormones! Gluten sensitivity (called Coeliac Disease when it is serious) is very common and causes a vast number of health problems in men and women alike.

In some people gluten can cause Leaky Gut Syndrome. Because the intestinal lining is damaged, undigested food particles are able to enter the blood stream. The immune system doesn't know what they are, so it attacks them. This can cause joint pain, arthritis and can lead to autoimmune conditions such as lupus and fibromyalgia. Many of these illnesses can be vastly improved by repairing the gut. From Michael's results, you can see that eggs had become a problem food for him – his immune system was sensitised every time he ate eggs. Because he is a vegetarian (who does eat fish), he was actually eating eggs on most days. This was causing a further stress to his body.

Finally, Michael's immune system had been compromised:

Total Salivary SIgA	16	Depressed	Normal: 25-60 mg/dl Borderline: 20-25 mg/dl
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Salivary IgA, or 'SIgA', is a very important part of the immune system. It is the first line of defence against, and contains antibodies to, invading organisms such as parasites, yeast, bacteria and fungus. It is in the lining of the mucous membranes that can be found in the digestive system, vagina, nasal passageways, eyes, throat, etc.

Chronic stress is known to reduce SIgA levels, which makes it much easier for invaders to settle in the body. These invaders cause 'dysbiosis', that is an imbalance between the good or friendly organisms in the digestive system and the ones that shouldn't be there. We haven't yet done the testing to see whether Michael has dysbiosis, although the likelihood is that he does.

GETTING MICHAEL STARTED

With so many imbalances, it was important to ensure we addressed Michael's health in the correct order, otherwise the programme would have been ineffective.

- The first thing we had to do was address the food intolerances, so I advised Michael to eliminate eggs & gluten as best he could be only eating the following grains: corn, rice, millet and buckwheat. This would enable his digestive system to rest and over time, the inflammation to subside.
- Second, I recommended that Michael made sure he started to go to bed earlier – ideally at 10pm – so that his body had more repair and healing time
- Third, I recommended that Michael order some licorice root extract, which would help rest his adrenals and conserve cortisol. I recommended 10drops first thing in the morning and 10 drops before lunch.
- I also recommended B vitamins, especially vitamin B5, as this is required for the production of all adrenal hormones, as well as vitamin C minerals. Interestingly, vitamin C is found in very high concentrations in the adrenal glands.
- Finally I recommended that Michael mix a small amount cayenne pepper with water or juice as this can help elevate low SIgA levels.