
FROM THE FILES



Dr. Christian Duraffourd, MD ; Source: <http://www.phyto2000.org/statutsus.html>

SEASONAL ADAPTATION

Dr. Duraffourd had a visionary understanding of the adaptation syndromes of periodicity. Not only did he grasp the underlying mechanisms of circadian and seasonal adaptation, but understood the implications of dysadaptability to these changes for a variety of disorders. Below I have excerpted, translated and edited for clarity some discussions he had with his students in 1995 and 1996.

Kamyar M. Hedayat, MD

SPRING ADAPTATION: MSH AND ACTH

CD: During the change of season, there is a need to involve general adaptation syndrome, but this is programmed in a particular way depending on where the individual lives.

In the spring, there is an increase in luminosity, so there is an increase in the secretion of MSH (melanocyte stimulating hormone) to increase pigmentary skin protection, and therefore there is an increase in the level of prolactin in a very

intense way to increase the level of reactivity of ACTH. This is to increase the energy level which will make it possible to change the endocrine level in which one is at that moment. MSH has direct action on the adrenal cortex (it stimulates cortisol production and release). It also modifies, by the prolongation of its secretion, the level of action of ACTH by increasing the adrenal cortex's sensitivity to stimulation by ACTH. This in turn, lowers the ACTH-adrenal cortex feedback reactivity threshold.

When the duration of light diminishes, we follow the path of serotonin and oxytocin to have, through

ADH (anti-diuretic hormone, e.g., vasopressin), a revival of ACTH, again with a revival of sympathetic alpha (to stimulate ACTH and the adrenal cortex)...

Q: In both cases, ACTH is involved?

CD: Yes, but in different ways. That is to say, in one case you increase the level of reactivity, in the other you decrease it.

With the increase, it involves ACTH, MSH, and the adrenal cortex; so you have MSH which stimulates the adrenal cortex, adrenal cortex which inhibits ACTH, and MSH normally stimulates ACTH, but it also increases sensitivity of ACTH to feedback from the adrenal cortex, so it allows a reduction of adrenal cortex feedback threshold and ACTH.

Whereas in the release of ACTH with the decrease in MSH, it raises the threshold of responsiveness of ACTH once again to glucocorticoids, and therefore, with a revival of prolactin, it will increase the secretion of ACTH in an appropriate way, which will increase the general level of the hormonal system...
Source: LF Avril 1995

SEASONAL ADAPTATION: THE ROLE OF ADAPTABILITY

In the case of seasonal changes, it is a necessity for the general adaptation syndrome (of Endobiogeny) to intervene. It is programmed in a particular manner for the local where the individual lives. It's a type of adaptation.

If there are superimposed anomalies in the moment (of seasonal adaptation), you can bring in the phenomena of adaptability. This means we will change the mechanisms for maintaining the given situation. It will short-circuit physiological ones, and at that moment there, you will no longer have the possibility of returning to the previous level spontaneously, at the time of the subsequent change of season. From the moment when mechanisms of adaptability intervene, there is a definitive change unless...the person is able to

recover spontaneously, which is almost never the case. *Source: LF Avril 96*

ADRENAL GLANDS IN SEASONAL ADAPTATION

Let's take the example of the level of the adrenal at the time of the change of season, so at the time of autumn. We have the change in the level of the sympathetic nervous system to entrain adrenal cortex and thyroid activity. This is the normal adaptation response faced with a changing situation. It allows the body to shift into the proper level of function. (I'm discussing the situation when) there is no particular threat. For example, last autumn, after the 3 consecutive winters without cold, the thyroid was very delayed compared to its normal reaction in the normal adaptation of the body to these situations. The adrenals failed to readapt their level of function in the fourth autumn (because for three years there was no demand). This year, the adrenals were "fed up" (at having to be so intensely stimulated this year) when last fall, there was no adrenal relaunching. This is a phenomenon of adaptability.

The passage from spring to summer to autumn and then winter implies an increase in the level adrenal gland and thyroid activity. This is because it is necessary to have a higher rate of catabolism, to have sufficient calories to face the cold by generating more body heat. We turn on the heating, and this increase in activity implies a mobilization of energy, whereas, when we then go down in level of activity in the spring, we have a release of energy.

And that is why you have much more spasmophilia, cystitis or hyper-reactivity element in the spring and much more decompensation of serious illnesses in October. And these mechanisms of adaptability therefore go through an increase and an acceleration of the alpha sympathetic (branch of the autonomic nervous) system, which will induce the establishment of the adrenal cortex and glucocorticoids (such as cortisol), which will stimulate the thyroid's receptivity to its central

stimulation and therefore trigger winter (physiologic) hyperthyroidism.

So, the problem—and the question raised by and Darwinian adaptation—is simply the fairly constant observation this year that certain patients experience inadaptability of the adrenal glands to the normal passage of autumn this year given that it's been 3 or 4 years since we've had a (cold) winter. The adrenals have been exhausted fighting, trying to set up this level of activity.

That is to say that the adrenal has not increased its level of function because alpha sympathetic has not been activated to stimulate the adrenals. So, there was at the level of a certain mechanism (that can intervene in this situation), but I leave you the task of elucidating the blockage in rise of hyper alpha sympathism. These people will present as soft (passive and yielding), slow, dragged down and exhausted.

Let me explain that MSH (melanocyte stimulating hormone) is a mandatory element from the moment there is a need to increase the output of glucocorticoids (e.g. cortisol). That is to say, if you want to increase adrenal cortex activity in a health person, you have to go through MSH. This explains why we tan in the autumn and winter. Am I right?

SEASONAL ADAPTATION AND GOITER

Q: You see a lot of goiter appearing at the change of seasons.

C.D: The passage from spring and summer to autumn and then to winter, implies an increase in the level of activity of the adrenal and thyroid glands since it is necessary to have a higher rate of catabolism for the calories to face the cold. We turn

on the heating and this increase in activity implies a mobilization of energy. When we then go down in level of activity in the spring, we have a release of energy. And that's why you have a lot more spasmophilia, cystitis or elements of hyper-reactivity in the spring and a lot more decompensation of serious illnesses in October. And these adaptability mechanisms therefore go through an increase and acceleration of the alpha sympathetic system, which will induce the establishment of the adrenal cortex and glucocorticoids, which will stimulate the thyroid's receptivity to its central stimulation and therefore trigger winter hyperthyroidism. *Source: Cas de Crohn et Spondylarthrite*

WINTER ADAPTATION: MSH AND REPLENISHMENT OF BROWN FAT

Q: How is brown fat replenished (for winter)?

CD: It is reconstituted according to the needs (of the individual)...MSH plays an important role, as do glucocorticoids, insulin and growth hormone. Note that it's the same mechanics that change the level of balance from summer to winter. These are the mechanisms that increase the volume of brown fat.

Q: So this explains the change in food tastes that we have at certain times of the year depending on the season?

CD: The adaptation time can vary over several days, for more fragile individuals, or, on the contrary, for more exacerbated individuals, who will therefore be more sensitive to the premises of changes in luminosity, for example. *Source: LF Octobre 1994, 2ème partie **
