

Practical Strategies for Management of the Pseudo-Endocrine Patient (May 4, 2017)

Michael T McDermott MD

Professor of Medicine, University of Colorado Denver School of Medicine

Director, Endocrinology and Diabetes Practice, University of Colorado Hospital

Learning Objectives

1. Discuss non-specific symptoms that may occur in many Endocrine disorders as well as non-endocrine conditions and in some people without any identifiable disease.
2. Review diagnostic testing for common endocrine conditions and the limitations of these tests to completely evaluate all aspects of potential endocrine pathophysiology.
3. Develop a practical approach to the evaluation and management of patients with pseudo-endocrine disorders.

Case 1

38 y.o. woman self-referred for hormone evaluation because of chronic progressive fatigue. She began feeling fatigue at age 28, about 1 year after the birth of her second child. She also endorses hair loss, inability to lose weight and persistent “brain fog”. She has read the internet and is convinced this is a hormone disorder. She is adamant that this is not due to depression. She has ordered some tests on-line (cycle day 4) and they are abnormal.

PMH: Negative Meds: Vitamins

PE: BP 129/74 P 74 Ht 5’7” Wt 158 lb. BMI 24.8 kg/m²

General: normal Thyroid: normal Skin: normal

Tests from On-line Orders (Cycle day 4; 10:00 AM):

TSH 2.1 mU/L (nl: 0.45-4.5)	Free T4 1.0 ng/dl (nl: 0.78-1.81)
Free T3 2.4 pg/ml (nl: 2.3-4.2)	Reverse T3 23 ng/dl (nl: 10-24)
TPO Antibodies: negative	Tg Antibodies: negative
Cortisol 12 ug/dl (nl: 10-20)	ACTH 19 pg/ml (nl: 10-50)
Testosterone 27 ng/ml (nl: 30-95)	Estradiol 101 pg/ml (nl: 27-123)
Progesterone < 1.5 ng/ml (nl < 1.5)	DHEA 188 ug/dl (nl: 145-395)
GH 0.04 ng/ml (nl: 0.05-3.0)	IGF-1 57 ng/ml (nl: 60-220)

Questions:

Do you have additional questions for her?

Do you recommend additional thyroid tests?

Do you recommend additional adrenal tests?

Do you recommend more pituitary tests?

Do you recommend any other tests?

Your patient asks: I have all the symptoms of low thyroid. Why are the TSH and T4 levels normal? How do you respond to this question? Symptoms of thyroid dysfunction are non-specific. Many people who don’t have thyroid disease also have these symptoms.

She then asks: My reverse T3 is high. Do I have Reverse T3 Syndrome? Your response? T3 has 100 x higher affinity than reverse T3 for the Thyroid receptor. Reverse T3 does not compete with T3 for occupancy of the T3 receptor. There is no scientific evidence for the existence of the

Reverse T3 Syndrome.

She also asks: My T3 is low. Do I have Wilson's Low T3 Syndrome? Your answer? There is no scientific evidence that Wilson's Low T3 Syndrome exists or that treatment is effective.

She is clearly frustrated and then asks: My growth hormone and IGF-1 levels are both low. The internet said that I might benefit from HGH therapy. What is your opinion about that? Audience input is essential for this.

Questions for Insightful Endocrinologists to Consider:

Do we really know that nothing is wrong with the entire hypothalamic pituitary thyroid axis, the hypothalamic pituitary adrenal axis and the hypothalamic pituitary (GH) liver (IGF-1) axis?

Are we ready to suggest that we now know all there is to know about hormone secretion, transport and action?

Should we (or not) acknowledge that we don't know everything and still eagerly await new research discoveries?

Questions Relevant to this Case and Many Others:

Can you play a role in improving this patient's quality of life?

Can you help this patient even if there is no apparent endocrine disorder?

Important Considerations:

Endocrinologists are the acknowledged experts in hormone secretion, transport and action.

It is an honor that a person respects our expertise and entrusts their healthcare to us.

Every patient deserves our respect and compassion.

Comments:

Hypothalamic-pituitary-thyroid axis, hypothalamic-pituitary-adrenal-axis, hypothalamic-pituitary-GH-IGF1 axis physiology, and all other hormone and metabolic processes are highly complex, involving hypothalamic regulation, pituitary secretion, end-organ secretion, hormone transport in the circulation, hormone binding to receptors, cellular response to hormone binding, and numerous subsequent chemical and physiological reactions. It is possible that many or some symptoms could result from inherited or acquired abnormalities (genetic or epigenetic) at any of these multiple steps of hormone physiology for which we currently do not have adequate tests. Alternatively, symptoms could also result from other diseases that may be associated with or independent of endocrine disorders. Recognition of these possibilities and the development of compassionate and supportive relationships with these patients are usually beneficial.

Discussion with Patient:

Honesty. "I'm not sure what is causing your symptoms. I have done all the appropriate tests and have not found an Endocrine disorder."

Encouragement. "While we didn't find a cause for your symptoms, your test results do indicate that you do not have any serious conditions."

Compassion. "I hope that your symptoms will resolve soon with healthy lifestyle measures. I am certainly willing to repeat some of your tests in 3-6 months if the symptoms persist."

Recommendations:

Good Sleep Habits, Regular Exercise, Good Nutrition, Stress Reduction, Depression

Management, Treatment of Co-existing Illnesses, saying “I’m here for you if you need me.”

Case 2

A 51 year old man referred by his PCP for exercise intolerance, muscle weakness, excess sweating and difficulty concentrating for the past 4-5 years. He is a former college athlete. He eats a well-balanced diet, exercises regularly and sleeps fairly well. Libido and sexual function are normal. He has 5 alcohol drinks/week and doesn’t smoke. A general evaluation, including TSH and Testosterone, was normal. A naturopath advised thyroid support and adrenal support supplements, but he has not yet started these. He would like a complete hormone evaluation.

PMH: Colon Polyps Meds: Vitamins, Minerals

PE: BP 140/85 P 76 Ht 5’11” Wt 208 lb. BMI 29 kg/m²

 General: normal Thyroid: normal Skin: normal

Labs: TSH 2.3 mU/L, Free T4 1.4 ng/dl (nl: 0.8-1.8)

 Testosterone 390 ng/dl (nl: 275-1075)

 IGF-1 132 ng/ml (nl: 60-220)

Questions:

Do you have additional questions for him?

Do you recommend additional thyroid tests?

Do you recommend adrenal tests?

Do you recommend pituitary tests?

Do you recommend any other tests?

Your patient responds: The normal ranges don’t apply to me. Routine tests are always normal for me. But I am different. What is your response to this statement?

He also notes: The testosterone level is at the low end of the range. My testosterone must have been higher when I was younger. I was a varsity baseball player. What is your response to this comment?

He also comments: These tests aren’t a complete evaluation of my hormone systems. The internet said that other tests are necessary. How do you respond to this suggestion?

Your patient is frustrated and says: My Naturopath said you might say that my tests are normal. But something is wrong with me. He thinks I may have adrenal fatigue. Can you test me for that? Should I take adrenal support supplements? What is your opinion on this?

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Compassion. "I hope that your symptoms will resolve soon with healthy lifestyle measures. I am certainly willing to repeat some of your tests in 3-6 months if the symptoms persist."

Recommendations:

Good Sleep Habits, Regular Exercise, Good Nutrition, Stress Reduction, Depression Management, Treatment of Co-existing Illnesses, saying "I'm here for you if you need me."

Final Considerations:

What the Patient Says: Fix my thyroid, adrenal, or pituitary condition

What the Patient Means: Please Help Me!

The Patient's Quality of Life is Poor And He/She is Frustrated

It's an Honor that She/He Entrusts You With an Opportunity to Help Her/Him

Furthermore:

We don't know what we don't know.

We are not really sure there is not an endocrine condition that is very subtle or for which we don't even have a test.

Final Recommendations:

Listen attentively

Examine your patient

Offer additional testing, if appropriate

Admit that current testing options have some limitations

Always provide honesty, encouragement and compassion

Final Thoughts:

It's An Exciting Time to be an Endocrinologist!

There is So Much Still to Learn.

And So Many People We May Be Able to Help!

References

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