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## CASE HISTORY

### Hormone Replacement Therapy

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*Supplementing with natural hormones changes the life of this 67-year-old woman.*

Rita was a 59-year-old widow when she first visited my New York City office eight years ago. She was an active woman who traveled and exercised regularly, and maintained a high level of social and civic involvement. Rita's primary complaint was fatigue—she said she was lacking her usual “pep.” Her secondary complaints were intermittent insomnia, dry skin, and unmanageable hair.

Other than a 10-year history of tachycardia (abnormally rapid heartbeat), Rita was in generally good health. She was not overweight. She was not seeing other doctors at that time. She said that she opposed taking drugs or introducing anything unnatural into her body, and was seeking an alternative approach to relieving her symptoms.

I told Rita that while I suspected her complaints were all related to low hormone levels, discussing specific treatment regimens would be premature until extensive tests were completed. She agreed to a comprehensive workup, but stated her firm opposition to hormone replacement therapy, despite having friends and acquaintances who had used it to mitigate their menopausal symptoms. She considered herself well informed and did not want to risk the serious side effects, particularly cancer, that had been correlated to previous synthetic estrogen, growth hormone, and testosterone therapies.

We discussed my protocol for her complaints, which consisted of:

- A physical examination with standard blood work;
- Brain function analysis, including brain electrical activity mapping (BEAM) to reveal four key measures of brain function (voltage, speed, rhythm, and symmetry), attention testing, and memory assessment;
- Analysis of hormone and nutrient levels;
- Allergy and toxic metal screening;
- Cancer screening.

Test results were reviewed during Rita's follow-up visit. Results of her physical were unremarkable. Standard blood tests, including thyroid levels, were normal. Cancer, allergy, and toxic metal screens were negative, and echocardiogram and pelvic ultrasounds contained no abnormalities. Breast ultrasound confirmed her negative mammogram from the previous year. Minor stenosis was evident in her left carotid, but blood flow to the brain was normal. Nutrient profiles revealed deficiencies in vitamin B12, iron, and some amino acids.

Her brain function results were:

- **BEAM results** (normal ranges in parentheses):  
Voltage: 6 uV (10 uV)  
Speed: 370 ms (360 ms)  
Rhythm: 1 EP (0-1 EP)  
Symmetry: Normal
- **Attention test:**  
omission errors, delayed reaction
- **Memory score:**  
95 (slightly below average)

Her hormonal profile (normal ranges in parentheses) was:



- **Estradiol:** 14.7  
(<5.0 – 54.72 pg/mL)
- **Progesterone:** 1.8  
(0.1 – 0.8 ng/mL)
- **Testosterone:**  
Total: 27  
(6.0 – 82.0 ng/dL)  
Free: 0.87  
(0.03 – 1.55 pg/mL)
- **Follicle stimulating hormone (FSH):** 110.6  
(25.8 – 134.8 mIU/mL)
- **Luteinizing hormone (LH):** 49.3  
(7.7 – 58.5 mIU/mL)
- **DHEA-S:** 227  
(10 – 190 ug/dL)



I told Rita that blood laboratories and conventional doctors consider these ranges to be normal because their values are typical for postmenopausal women. The alternative opinion—which I share—is that being resigned to physical and mental deterioration is not acceptable. I noted that aging is the culprit, not hormones. Women in the prime of their reproductive years have estrogen levels of 400, progesterone levels of 25, and testosterone levels of 100. Target levels for treating menopausal symptoms are 50 for estrogen, 10 for progesterone, and at least 40 for total testosterone and 1.3 for free testosterone. I further explained that hormones affect much more than skin and hair; they influence overall energy level, play a role in mental acuity, and help ensure proper sleep.

Although I assured Rita that natural formulations had achieved remarkable results without deleterious consequences for my patients,<sup>1,2</sup> she was still not comfortable going forward with hormone replacement therapy. She felt that women had been too often used for experiments, and she was not one to go along blindly. She insisted on another treatment option.

Because she was not suffering from any critical condition, I told her that I would do all I could to honor her request. She was given a vitamin B12 injection and a supplement program that included tyrosine, phenylalanine, rhodiola, L-methionine, octacosanol, huperzia, CDP choline, phosphatidyl choline, and N-acetyl-L-carnitine for physical and mental energy. The program also included fish oil, niacin, red yeast, and policosanol for her arteries, and thiamin, niacinamide, folic acid, vitamin B12, pantothenic acid, 5-hydroxy tryptophan, and St. John's wort for sleep. We agreed to meet for follow-up visits at three and six months.



At three months, Rita reported that she was feeling better overall but was not where she wanted to be. She was still unhappy about her energy level and sleep remained an issue, though less frequently than before. Her nutrient levels improved marginally while her hormone levels remained stagnant.

I told Rita that an integrative approach to her condition should include hormone replacement therapy. I explained that in the past, synthetic hormones were created because the digestive system destroyed natural hormone formulations before they could be properly absorbed.<sup>3</sup> I assured her that micronized hormones did not have that problem, nor did they contain the components used in synthetic versions that cause adverse reactions. I further explained that conventional hormone replacement therapy is frequently not balanced, with estrogen being given without compensating for reduced testosterone.<sup>4,5</sup> Despite this information, she wanted to stay with her existing protocol.

At six months, Rita had not made satisfactory progress. She said she was too young to accept her skin and hair the way they were, to not get enough enjoyment out of sex, and to not have enough energy to maintain an active social and civic life. She was finally receptive to hormone replacement therapy.

A micronized combination progesterone-estradiol-testosterone formulation available from a compounding pharmacy was prescribed. She took 200 mg of progesterone, 1 mg of estradiol, and 5 mg of testosterone at bedtime. She added 50 mg of DHEA in the morning and 3 mg of melatonin at bedtime to her previous supplements.

Three months later, the change in Rita was unmistakable. She smiled almost continuously. Her anxiety about not being herself had disappeared. She was animated as she spoke about her softer and smoother skin, more attractive hair, and greater pleasure from sex. She was sleeping more consistently, and said that for the first time in months, she was not hesitating to fill her social calendar. Her rapid turnaround was consistent with that seen in other patients undergoing hormone replacement therapy.

Rita's symptomatic improvement was confirmed by her blood chemistry: her estradiol had risen to 27.3, her progesterone to 2.7, her total testosterone to 41, and her free testosterone to 1.15.

Her FSH and LH levels had dropped by 20%, and her DHEA-S was down to 187. She was excited about the real possibility of feeling even better as time went on.

After a year of natural hormone replacement therapy, Rita said she felt like a new person. Her friends told her that she not only looked better, but also seemed much sharper mentally. Rita admitted that being able to concentrate harder for longer periods was an unexpected bonus. These anecdotal observations were confirmed by a follow-up battery of brain tests, which showed voltage improvement to 8.6 uV, speed improvement to 360 ms, her memory score rising to 105 (slightly above average), and improved scores on her test of attention. Although her hormone levels were still below target values, they had all improved by an average of 20%.

Today, eight years later, Rita is steadfast in her hormone replacement therapy.

Her latest hormone levels were:

- **Estradiol:** 37.8
- **Progesterone:** 4.8
- **Testosterone:**  
Total: 71  
Free: 1.44
- **DHEA-S:** 138



Rita loves the way she looks, and is enjoying a fuller life. She reports that some of her friends have stopped taking synthetic hormone formulations because of their correlation to cancer, heart disease, and stroke, but also reports that those who have stopped are miserable without hormone replacement therapy. She is now educating others about the difference between synthetic and bioidentical hormones. Rita sums up her experience with hormone replacement therapy by saying, "I'm 67 years old, and I'm happy."



### Discussion

Hormone replacement therapy is about much more than looking good and having good sexual relations, though both are important for health and wellness. Hormones have global effects throughout the body, and they played a role in reversing Rita's symptoms.

As part of the body's dopamine-adrenaline system, estrogen, testosterone, and DHEA play an important role in fatigue.<sup>6-8</sup> Estrogen and testosterone levels have been correlated with brain electrical activity and cognitive function.<sup>9-12</sup> Skin, hair, and vaginal lubrication have been correlated widely to estrogen level.<sup>13,14</sup> DHEA and progesterone support mood, and progesterone and melatonin support proper sleep.<sup>15</sup>

Rita's results are similar to those experienced by many of the more than 3,000 women in my practice who have undergone natural hormone replacement therapy. Even when target levels are not reached, remarkable symptomatic improvements occur when low hormone levels are doubled or tripled using replacement therapy.

### Conclusion

Although the literature is sometimes conflicting,<sup>16-18</sup> an abundance of studies confirms the benefits of hormone replacement therapy. While studies of the efficacy of micronized hormones represent only a small fraction of the total, many have in fact demonstrated such efficacy.<sup>19,20</sup> Not one study attributes to bioidentical hormones the adverse side effects that have been associated with synthetic formulations.

With the ever-growing number of postmenopausal women seeking to maintain good health and a high quality of life, the use of natural hormone replacement therapy is indispensable.<sup>21,22</sup>

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### References

1. Prestwood KM, Kenny AM, Kleppinger A, Kulldorff M. Ultralow-dose micronized 17beta-estradiol and bone density and bone

metabolism in older women: a randomized controlled trial. *JAMA*. 2003 Aug 27;290(8):1042-8.

2. Ryan N, Rosner A. Quality of life and costs associated with micronized progesterone and medroxyprogesterone acetate in hormone replacement therapy for nonhysterectomized, postmenopausal women. *Clin Ther*. 2001 Jul;23(7):1099-115.
3. Langer RD. Micronized progesterone: a new therapeutic option. *Int J Fertil Womens Med*. 1999 Mar-Apr;44(2):67-73.
4. Davis SR, Burger HG. The role of androgen therapy. *Best Pract Res Clin Endocrinol Metab*. 2003 Mar;17(1):165-75.
5. Sarrel PM. Androgen deficiency: menopause and estrogen-related factors. *Fertil Steril*. 2002 Apr;77 Suppl 4:S63-7.
6. Davis A, Gilbert K, Misiowiec P, Riegel B. Perceived effects of testosterone replacement therapy in perimenopausal women: an internet pilot study. *Health Care Women Int*. 2003 Nov;24(9):831-48.
7. Hunt PJ, Gurnell EM, Huppert FA, et al. Improvement in mood and fatigue after dehydro-epiandrosterone replacement in Addison's disease in a randomized, double blind trial. *J Clin Endocrinol Metab*. 2000 Dec;85(12):4650-6.
8. Scott LV, Salahuddin F, Cooney J, Svec F, Dinan TG. Differences in adrenal steroid profile in chronic fatigue syndrome in depression and in health. *J Affect Disord*. 1999 Jul;54(1-2): 129-37.
9. LeBlanc ES, Janowsky J, Chan BK, Nelson HD. Hormone replacement therapy and cognition: systematic review and meta-analysis. *JAMA*. 2001 Mar 21;285(11):1489-99.
10. Sherwin BB. Estrogen and cognitive functioning in women. *Endocr Rev*. 2003 Apr;24(2):133-51.
11. Chu MC, Lobo RA. Formulations and use of androgens in women. *Mayo Clin Proc*. 2004 Apr;79(4 Suppl):S3-7.
12. Wisniewski AB, Nguyen TT, Dobs AS. Evaluation of high-dose estrogen and high-dose estrogen plus methyltestosterone treatment on cognitive task performance in postmenopausal women. *Horm Res*. 2002;58(3):150-5.
13. Bachmann GA, Leiblum SR. The impact of hormones on menopausal sexuality: a literature review. *Menopause*. 2004 Jan-Feb;11(1):120-30.
14. Marthol H, Hilz MJ. Female sexual dysfunction: a systematic overview of classification, pathophysiology, diagnosis and treatment. *Fortschr Neurol Psychiatr*. 2004 Mar;72(3):121-35.
15. Montplaisir J, Lorrain J, Denesle R, Petit D. Sleep in menopause: differential effects of two forms of hormone replacement therapy. *Menopause*. 2001 Jan-Feb;8(1):10-6.
16. Boothby LA, Doering PL, Kipersztok S. Bioidentical hormone therapy: a review. *Menopause*. May-Jun;11(3):356-67.
17. Espeland MA, Rapp SR, Shumaker SA, et al. Conjugated estrogens and global cognitive function in postmenopausal women: Women's Health Initiative Memory Study. *JAMA*. 2004 Jun 23;291(24):2959-68.
18. Nelson HD. Commonly used types of post menopausal estrogen for treatment of hot flashes: scientific review. *JAMA*. 2004 Apr 7;291(13):1610-20.
19. Wetzel W. Human identical hormones: real people, real problems, real solutions. *Nurse Pract Forum*. 1998 Dec;9(4):227-34.
20. Watt PJ, Hughes RB, Rettew LB, Adams R. A holistic programmatic approach to natural hormone replacement. *Fam Community Health*. 2003 Jan-Mar;26(1):53-63.
21. Khashoggi TY. Current trends in hormone replacement therapy. *Saudi Med J*. 2002 May;23(5):495-502.
22. Fitzpatrick LA, Pace C, Wiita B. Comparison of regimens containing oral micronized progesterone or medroxyprogesterone acetate on quality of life in post-menopausal women: a cross-sectional survey. *J Womens Health Gend Based Med*. 2000 May;9(4):381-7.

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