

Protocols of Work-Up and Anti-Aging Treatment for Women

By Seung-Yup Ku, MD, PhD, ABAAM and Seok Hyun Kim, MD, PhD
Department of Obstetrics and Gynecology, Seoul National University Hospital, Seoul, KOREA

Introduction

Anti-aging medicine is not simply receiving human growth hormone (hGH) injection, nor taking huge dose of vitamin C. Rather, anti-aging physicians should make an integrative approach for their clients' problems. As in the basics of medical treatment, a change of lifestyle should be the number one in the list of anti-aging regimens. Sufficient amount and adequate type of exercise, well balanced and calorie-restricted diets, and keeping good psychological and mental health status by meditation or religious activities should precede recently recommended medical remedies for anti-aging. Secondly, cure or good control of chronic degenerative diseases and sticking to strict early cancer detection program should be executed as we have done last decades. We cannot emphasize too much on the importance of the above-mentioned measures before we are engaged in the anti-aging measures.

There can be largely two categories of anti-aging medicine for women: functional and cosmetic, or internal and external. Functional decline of endocrine system needs to be corrected so as to keep the level of early to mid 30s, since this decreased endocrine activity parallels the aging phenomena of our body. For this approach, we need diagnostic tools for measuring functional ages and biomarkers by which we can titrate the level of our replacement strategies. The other aspect is usually done by dermatologic surgeons such as Botox[®], mesolift, and etc. All these measures are of no use if we face heart attack tonight.

These authors wish to accentuate the importance of proceeding from basic to medical ladders so, as physicians, we can maximize the contemporary advantages of anti-aging medicine.

There can be so many different anti-aging protocols among different researchers, physicians or countries. This chapter summarizes the axis of replacing deficient hormones based upon reviewing literatures, and surely this kind of protocol is subject to a potential modifications due to the quick pace of progress in science and medicine.

The following is a suggested starting anti-aging protocol for a perimenopausal female (usually 46 to 54 year-old), of most ethnic groups, who presents with diffuse complaints of hot flush, sweating, palpitation, irregular periods, depression, weakness, or difficulty concentrating.

Suggested Protocols:

Initial work-up:

History taking: para, menstrual history, past medical history, family history (esp. ovarian / breast cancer)

Basic measurements: blood pressure, height & weight (BMI), body fat contents and distribution

Questionnaire: symptom list with specified severity or grade of symptoms & signs

Gynecological exam: including Pap smear

Pelvic USG: screen out ovarian or uterine mass

Vitamin battery: vitamin A, β -carotene, vitamin B₁₂, folate, vitamin C, 1,25(OH)₂-VitD₃, 25(OH)-Vit D₃

Tumor markers: AFP, CEA (\pm SCC, CA125, CA19-9)

CBC: WBC, RBC, Hb, Hct, Platelet

Lipid battery: total-, HDL-, LDL-cholesterols, triglyceride

Liver function test and Chemistry: GOT/GPT, protein/albumin, bilirubin, glucose (fasting), urea nitrogen/creatinine, calcium/phosphate, alkaline phosphatase, uric acid

Inflammation/methylation battery: hsCRP, fibrinogen, homocystein, lipoprotein (a)

Oxidative stress markers: MDA, isoprostane, 8-OHdG, SOD

Serology: VDRL, HBs Ag/HBs Ab, Anti-HCV, HIV

Urinalysis, Chest-PA, EKG

Mammography (\pm breast USG)

Bone densitometry (DEXA):

T score < -1.0 at lumbar spine or femur neck should be followed regularly;

T score < -1.5 at lumbar spine or femur neck should be followed carefully, and can be individualized and intervened;

T score < -2.5 at lumbar spine or femur neck should be treated immediately.

Bone markers: urinary NTx (N-telopeptide), Dpd (deoxypryridinoline), OC (osteocalcin)

Heavy metal battery: Pb, Cr, Cd, Mn, Hg, etc.

Prn, abdomen ultrasound

Prn, skin biopsy or hair analysis

Functional age measurement: H-scan or Inner age system, etc.

Pre-treatment hormonal analysis

Hormone study: FSH, estradiol, IGF-I, TSH, DHEAS, cortisol (\pm ACTH, hGH, Free T4, LH)

* Serum RIA tests are superior to saliva tests which have larger ranges of intra- / inter-assay CVs.

Treatments

Antibiotics for bacteriuria (quinolone for 1-2 week)

Anti-fungal vaginal suppository for leucorrhea

Prn, estrogen vaginal cream/suppository

Prn, vaginal lubricants

DHEA 25 mg/day (titrate with DHEAS level)

Prn, vitamin A: 5,000 IU qd

Vitamin C: 1,000 mg tid

Vitamin D: 400 IU qd

Vitamin E: 400 IU qd (γ -tocopherol preferred)

β -carotene: 20 mg qd

Vitamin B complex: 2 tablets qd

Calcium carbonate: 500-1,000 mg qd

Green tea: 4 cups/day

Ginkgo capsule: 1 tablet/day

Ginseng capsule: 1 tablet/day
Aspirin: 80mg qd (without bleeding tendency)
CoQ₁₀ in patients on statin

Exercise 20 minutes a day (walking or jogging)
Avoid heavy dressing, hot food/beverage, stress, junk (instant) food, soda, coffee
Meditation, yoga or religious activities

hGH 1U SC qd, 3-5 days a week (preferably at bedtime) ? titrate by IGF-I (target range: 300~350 ng/ml)
* Caution: Estrogen co-administration can alter the level of IGFBP-3.

T3 or T4 replacement in case of thyroid deficiency

Bisphosphonate or calcitonin (recently PTH available) for osteoporosis or osteopenia

[Choice for female HT]

Estrogen: Bioidentical estrogen: metered to age, weight, and symptomology

Estradiol: metered to age, weight, and symptomology

Tibolone (no progestin combination needed)

Phytoestrogen (black cohosh, ginseng, soy products)

Progestin: low dose MPA (1 or 2.5 mg qd)

Dydrogesterone

Micronized progesterone

NETA

Phytoprogestin

Follow-up functional age measurement and questionnaires with BMI measurements

Prn, acupuncture at the pain/discomfort sites

Post-treatment hormonal analysis (Follow-up)

IGF-I, TSH, DHEAS, cortisol (\pm ACTH, Free T4, estradiol) for dose adjustment

At 3, 6, 12, 24, 36 months and so on

When hGH, thyroid hormone, DHEA, cortisol replacement

With liver battery, lipid battery, breast work-up once (or twice) a year

Pap smear, pelvic USG, BMD, tumor markers once a year

At every visit, clients should be counseled regarding improvement of chief complaints, complications of therapies, and dosing of medication and supplementation. After 6 months of treatment, options of tapering or discontinuation of current management should be given according to their motivation.

