Medroxyprogesterone Acetate (MPA) Versus Natural Progesterone (NP)

Lipid Profile:

MPA adversely affects lipid profile and negates the beneficial effects of CEE[1]
NP does not negate the beneficial effects of CEE and modestly improves cholesterol levels[2]

Liver function

MPA is contraindicated in patients with liver dysfunction[3]
NP does not effect liver enzymes or cause liver-related side effects[4],

Cardiovascular events

MPA may cause fluid retention and edema[5]
NP has antihypertensive action and can be safely used to treat preclampsia[5,6]
MPA increases incidence of CHD, stroke and VTE[7], and diminished the cardio- protective effect of estrogens[8].
NP, with estrogen, prevents the coronary vasospasms (in rhesus monkey[9,10]) and enhances the beneficial effect of estrogen on exercise-induced myocardial ischemia in postmenopausal women[11]

Glucose/Insulin

MPA has been found to cause deterioration of glucose tolerance or hyperinsulemia or both[12]
NP augments the pancreatic response to glucose and increases the release of insulin[12]

Sleep and Mood

MPA can cause insomnia, mental depression, and anxiety[13]
NP improves the quality of sleep[13], and has sedative properties[14]

Bone Density

MPA can reduce bone density 5-6%[2],[15]

NP is a bone trophic hormone[16]

Quality of Life/Menopause Symptoms

Vasomotor symptoms, somatic complaints, anxiety, depression, and perceptions of patterns of vaginal bleeding.
When compared with a MPA-containing regimen, women using NP-containing HRT experienced significant improvement in symptoms and 80% reported overall satisfaction[17]

See attached Table 1.

25 Cabot Street Beverly, MA 01915 • 978-524-4800 • fx 978-524-4809
www.custommedicine.com

TABLE 1

Medroxyprogesterone Acetate (MPA) Versus Natural Progesterone (NP)

▪ Lipid profile	MPA:	adversely effects lipid profile negates the beneficial effects of CEE
	NP:	does not negate the beneficial effects of CEE modestly improves cholesterol levels
▪ Liver function	MPA:	contraindicated in patients with liver dysfunction
	NP:	does not effects liver enzymes or cause liver related side-effects
▪ Cardiovascular events	MPA:	may cause fluid retention and edema increases incidence of CHD, stroke and VTE, and diminishes the cardio-protective effect of estrogens
	NP:	has antihypertensive action and can be safely used to treat preclampsia with estrogen prevents the coronary vasospasms(in rhesus monkeys) and enhances the beneficial effect of estrogen on exercise- induced myocardial ischemia in postmenopausal women
▪	MPA:	has been found to cause deterioration of glucose tolerance or hyperinsulemia or both
	NP:	augments the pancreatic response to glucose and increases the release of insulin
▪ Sleep and Mood	MPA:	can cause insomnia, mental depression, and anxiety
	NP:	improves the quality of sleep and has sedative properties
▪ Bone	MPA:	may decrease bone density as much as 5-6%
	NP:	stimulates osteoblasts, bone-trophic
▪ Quality of Life/ Menopausal Symptoms		When compared with a MPA-containing regimen, women using NP-containing HRT experienced significant improvement in symptoms and 80% reported overall satisfaction

25 Cabot Street Beverly, MA 01915 ♦ 978-524-4800 ♦ fx 978-524-4809
www.custommedicine.com

References

[1] The Writing Group for the PEPI Trial; Effects of Estrogen or Estrogen/Progestin Regimens oh Heart Disease-Risk Factors in Postmenopausal Women; JAMA, Jan 1995; 273:3;199-208.

[2] Physicians Desk Reference, 44th edition, 1990.

[3] Bolaji, et.al. Low-dose progesterone therapy in oestrogenised postmenopausal women; effects on plasma lipids, lipop[roteins and liver function parameters; EUROBS, 48 (1993) 61-68.

[4] Darj,E,et.al. Liver metabolism during treatment with estradiol and natural progesterone; Gynecol.Endocrinol. 7 (1993) 111-114.

[5] Rylance, PB; et.al.; Natural progesterone and antihypertensive action.; Br Med J (Clin Res Ed) 1985 Jan 5;290(6461) 13-4.

[6]Sammour MB, et.al. Progesterone therapy in preclamptic toxaemia. Acta Obstet Gynec Scand. 1975; 54: 195-202.

[7]Sammour MB, et.al. Progesterone thjerapy in pregnancy-induced hypertension therapeutic value and hormonal profile. Clin % Exp Hyper-Hyper in Preg. 1982; B1:455-78.

[8]Writing Group for the Women's Health Initiative Investigators. Risks and Benefits of Estrogen Plus Progestin in Healthy Postmenopausal Women. JAMA 2002:288(3). http://jama.ama-assn.org/issues/v288n3/ffull/joc21036.html#aainfo

[9] Minshall D R, Stanczyk Z F, Miyagawa K, Uchida B, Axthelm M, Novy M et. al., Ovarian Steroid Protection against Coronary Artery Hyperreactivity in Rhesus Monkeys. Journal of Clinical Endocrinology and Metabolism. 1998: 83(2) p. 649-59.

[10] Minshall RD, Miyagawa K, Chadwick CC, Novy MJ, Hermsmeyer K. In vitro modulation of primate coronary vascular muscle cell reactivity by ovarian steroid hormones. FASEB J 1998:12(13) p. 1419-29.

[11] Rosano GM Webb CM, Chierchia S, Morgani GL, Gabraele M, Sarrel PM, et. al. Natural progesterone, but not medroxyprogesterone acetate, enhances the beneficial effect of estrogen on exercise-induced myocardial ischemia in postmenopausal women. J Am Coll Cardiol 2000:36(7) p. 2154-9.

[12]Estrogen and Progestogens in Clincal Practice; Harcourt Brace & Co, 1998 ISBN 0 443 04706 5.

[13] Montplaisir J, et.al. Sleep in menopause: differential effects of two forms of hormone replacement therapy. Menopause. 2001 Jan-Feb;8(1):10-16.

[14] Arafat, ES, et.at. Sedative and hypnotic effects of oral administration of micronized progesterone may be mediated through its metabolites. Am J Obstat Gynecol Nov 1988; 159(6):1203-09.

[15] Cundy,T, et.al. Spinal Bone Density in Women Using Depot Medroxyprogesterone Contraception. Obstet Gynecol 1998;92:569-573.

[16] Prior, JC. Progesteone as a Bone Trophic Hormone. Endocr Rev 1990 May; 11(2):386-98.

[17] Fitzpatrick, LA, et.al. Comparison of Regimens Containing Oral Micronized Progesterone or Medroxyprogesterone Acetate on Quality of Life in Postmenopausal Women: A Cross-Sectional Survey. Journal of Women's Health & Gender-Based Medicine, 2000, Nov 4: 9(4) 381-387.