

Estrogen Estrogen-androgen

A Study of Estrogen only Therapy and Estrogen Plus Androgen Combination Therapy in Surgical Menopause Patients

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Objective: To evaluate the difference between estrogen only therapy and estrogen-androgen combination therapy in surgical menopause patients.

Materials and Method: Surgical menopause patients received 0.625 mg conjugated equine estrogens or 0.625 mg conjugated equine estrogens plus 1.25 mg methyltestosterone for 2 years. Bone mineral density, menopausal symptoms, lipoprotein profiles were measured.

Results: Both groups showed increased bone mineral density. In the combination group, total cholesterol, high density lipoprotein cholesterol and triglycerides decreased. In the estrogen only group, low density lipoprotein cholesterol decreased but high density lipoprotein cholesterol increased significantly. In both groups, menopausal symptoms were much improved. Side effects were easily tolerated in both groups.

Conclusions: Estrogen-androgen combination therapy had comparable benefits compared with estrogen only therapy.

Key Words: Estrogen-androgen therapy, Surgical menopause

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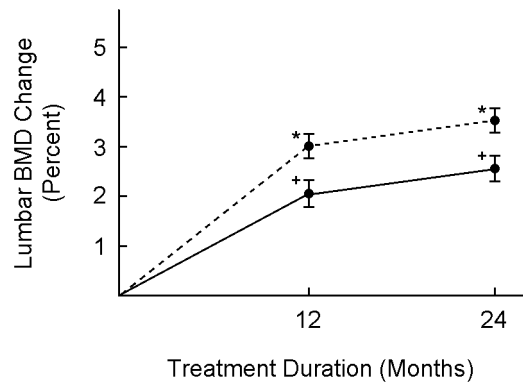


Figure 1. Mean percent changes from pre-treatment. Broken line = estrogen-androgen group; solid line = estrogen only group. * p<0.01, † p<0.05

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Table 1. Demographic data

	Conjugated equine estrogen 0.625 mg	Methyltestosterone 1.25 mg + conjugated equine estrogen 0.625 mg
Total no. of patients	95	80
No. of evaluable patients	60	60
Age (year)	52.1 ±3.8	50.5 ±3.5 (mean ±S.D.)
Time since oophorectomy (year)	3.5 ±1.7	4.1 ±1.5 (mean ±S.D.)

Table 2. Hot flush reduction score during treatment period

Reduction score	Tx. period (months)				
	1	2	12	24	
Estrogen only	0	-2.5*	-3.1*	-3.2*	* p<0.05
Estrogen + Androgen	0	-3.0*	-3.2*	-3.5*	* p<0.05

No significant differences between groups

Table 3. Vaginal dryness reduction score during treatment period

Reduction score	Tx. period (months)				
	1	2	12	24	
Estrogen only	0	-2.3*	-2.5*	-2.6*	* p<0.05
Estrogen + Androgen	0	-2.1*	-2.2*	-2.1*	* p<0.05

No significant differences between groups

Table 4. Insomnia reduction score during treatment period

Reduction score	Tx. period (months)				
	1	2	12	24	
Estrogen only	0	-1.8*	-2.0*	-2.3*	* p<0.05
Estrogen + Androgen	0	-1.6*	-2.0*	-2.1*	* p<0.05

No significant differences between groups

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Table 5. Lipid profiles between treatment groups

Index	Baseline (mg/dl)	Percent change from baseline		
		6 mo	12 mo	24 mo
HDL				
E	48.5 ±13.5	4.5 ±7.5*	3.3 ±8.5*	6.6 ±9.5*
E+A	45.3 ±12.2	-8.5 ±10.5 ⁺	-9.5 ±11.5 ⁺	-10.5 ±12.5 ⁺
P value	NS	<0.05	<0.05	<0.01
LDL				
E	141.1 ±35.4	-13.5 ±10.5 ⁺	11.5 ±9.5 ⁺	-10.5 ±11.5 ⁺
E+A	135.4 ±29.6	-5.5 ±9.5	-4.1 ±10.5	-1.5 ±8.5
P value	NS	<0.05	NS	NS
Total cholesterol				
E	217.5 ±36.5	-8.5 ±7.5 ⁺	-9.1 ±9.5 ⁺	-7.5 ±9.8 ⁺
E+A	209.4 ±31.4	-10.2 ±11.5 ⁺	-10.8 ±12.2 ⁺	-8.5 ±7.5 ⁺
P value	NS	NS	NS	NS
Triglycerides				
E	122.5 ±36.6	13.5 ±25.4	9.5 ±18.5	15.4 ±21.3
E+A	128.5 ±40.5	-15.6 ±22.5 ⁺	13.5 ±26.5	-20.3 ±28.5 ⁺
P value	NS	<0.01	NS	<0.01

HDL: high density lipoprotein; E=estrogen group; E+A=estrogen+androgen group; LDL: low density lipoprotein; NS=no significance. Data are presented as mean ±standard deviation. * p<0.05, ⁺ p<0.01

Table 6. Adverse effects during treatment

Adverse effect	Estrogen only (n=60)	Estrogen + androgen (n=60)	Odds ratio	P between groups
Headache	20 (33%)	9 (15%)	2.3	0.075
Hot flush	12 (20%)	6 (10%)	1.9	0.125
Edema	15 (25%)	14 (27%)	1.1	0.855
Breast pain	18 (30%)	21 (35%)	0.8	0.467

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