

PSA concentration change in men taking low dose finasteride and dutasteride for male androgenetic alopecia



Kim Y, Kang HW, Seo SP, Kim WT, Yun S, Kim W, Lee S
Chungbuk National University College of Medicine



Hypothesis / aims of study

- The effects of low dose 5ARI (5 α -reductase inhibitor) on PSA (prostate specific antigen) levels for treat male-pattern hair loss are less well understood.
- The aim of the present study was to assess the change in PSA concentration in men taking low dose finasteride and dutasteride for male androgenetic alopecia

Study design, materials and methods

- Serial PSA values was obtained in each patients from a systematically retrieved database of 1,379 male patients taking finasteride 1.25 mg daily and dutasteride 0.5mg every 3day for androgenetic alopecia between 2002 and 2012.
- The PSA kinetics was stratified for age, initial PSA, type of medication and duration of exposure to medication.

Results

- Overall PSA levels declined by 27.8% from baseline values after taking low dose 5ARI for male androgenetic alopecia.
- 1094 (79.3%) of patients showed a PSA reduction of 40.8%, but 285 (20.7%) of patients showed a PSA increase of 24.2%.
- Low dose dutasteride and finasteride have a similar effect on PSA reduction.
- When administered relatively short-term of 3-6 month, PSA concentration was reduced by 26.0% and remained similarly even for long-term intake.
- There was no significant PSA reduction for those with baseline PSA level under 0.5ng/ml.
- In multivariate logistic analysis, baseline PSA level under 0.5ng/ml was independent factor for stable or increasing PSA.

Table 1. Baseline characteristics of the patients.

Variable	N (%)	Change relative to baseline, %
Number of patients, n	1,379	
Medication		
Dutasteride, n (%)	627 (45.5)	
Finasteride, n (%)	752 (54.5)	
Age (years)	47.68 \pm 6.18 (34–73)	
PSA kinetics		
Initial PSA (ng/mL)	0.90 \pm 0.45 (0.11–2.41)	
Follow-up PSA (ng/mL)*	0.61 \pm 0.38 (0.10–2.40)	-27.8%
Decreased*	1094 (79.3)	-40.8%
Stable or increasing*	285 (20.7)	24.2%
PSA velocity (ng/ml/year)*	-0.17 \pm 0.27	

*These are the PSA values of the patients that were measured most recently.

Table 2. Prostate serum antigen kinetics in patient groups categorized according to age, baseline prostate serum antigen levels, medication type, and medication duration.

Variables	No. of patients (%)	PSA levels (ng/ml)			P*	PSA velocity (ng/ml/year)
		Baseline	Follow-up	Change relative to baseline, %		
Age†, yr						
<50	887 (64.3)	0.87 \pm 0.42	0.61 \pm 0.37	-26.3%	< 0.001	-0.16
\geq 50	492 (35.7)	0.93 \pm 0.48	0.63 \pm 0.40	-30.6%	< 0.001	-0.19
Baseline PSA, ng/ml						
<0.5	235 (17.0)	0.38 \pm 0.09	0.36 \pm 0.20	-1.8%	0.171	-0.03
\geq 0.5	1144 (83.0)	1.00 \pm 0.41	0.67 \pm 0.38	-33.2%	< 0.001	-0.23
Type of medication†						
Dutasteride	627 (45.5)	0.90 \pm 0.45	0.59 \pm 0.36	-31.1%	< 0.001	-0.15
Finasteride	752 (54.5)	0.89 \pm 0.44	0.64 \pm 0.39	-25.1%	< 0.001	-0.18
Duration of medication, months						
3–6	8 (0.6)	1.07 \pm 0.38	0.81 \pm 0.44	-26.0%	< 0.001	-0.60
7–12	203 (14.7)	0.96 \pm 0.47	0.62 \pm 0.36	-34.3%	< 0.001	-0.37
13–24	409 (29.7)	0.85 \pm 0.41	0.57 \pm 0.35	-28.0%	< 0.001	-0.22
25–36	320 (23.2)	0.92 \pm 0.46	0.64 \pm 0.41	-27.8%	< 0.001	-0.12
\geq 36	439 (31.8)	0.88 \pm 0.44	0.63 \pm 0.38	-24.8%	< 0.001	-0.06

Figure 1. Changes in the serum PSA concentrations of the 300 patients who underwent serial PSA measurements at baseline and 12 and 24 months. The patients were divided according to whether their baseline PSA level was <0.5 ng/ml (a) or \geq 0.5 ng/ml (b).

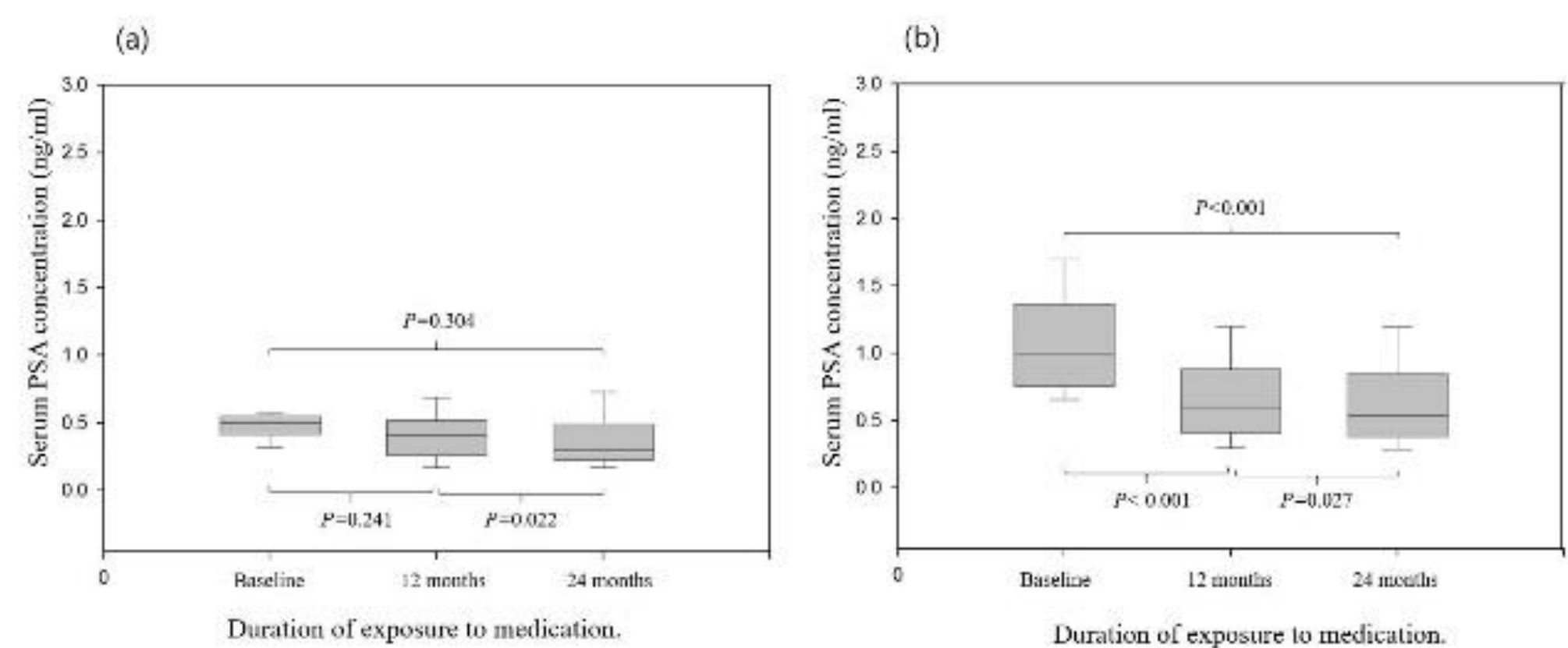


Table 3. Multivariate logistic analysis to identify factors that associate independently with stable/increased prostate serum antigen levels.

Variables	Univariate Analysis		Multivariate analysis (continuous variable)		Multivariate analysis (categorical variable)	
	OR	P	OR	P	OR	P
Age	0.992	0.451	1.001	0.902	0.995	0.681
Type of medication (dutasteride)	0.873	0.311	0.793	0.113	0.805	0.138
Duration of medication (months)	1.007	0.049	1.009	0.015	1.011	0.003
Baseline PSA (continuous)	0.192	<0.001	0.191	< 0.001		
Baseline PSA (< 0.5 ng/ml)	3.247	<0.001			3.383	< 0.001

Interpretation of results

- Both dutasteride and finasteride showed similar PSA reduction of approximately 25% after a short period of administration.
- PSA levels can be remained stable or increased for those with a baseline PSA level under 0.5ng/ml.

Concluding message

- When interpreting serial PSA values, clinicians should be taken into account of the potential effect of low dose 5ARI therapy for male androgenetic alopecia.

• Disclosures statement: none