Androgen Deficiency in the Aging Male (ADAM) Myth or Reality in Senegalese men

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Introduction

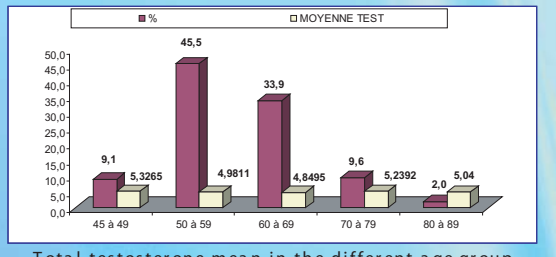
There is strong evidence linking aging male and decline serum testosterone. It may result in a significant alteration in quality of life. It is also frequently associated with co-morbidities, drugs side effects. Studies are still controversial to evaluate significant ethnic or racial variation in age related decline of testosterone level in men. Little is known about the prevalence of low serum testosterone in Sub-Saharan African men. This study aimed to determine the prevalence of low serum testosterone level, to evaluate the effect of age and co morbidities associated with decline androgen level in Senegalese men.

Material and Method

407 men aged 45 to 89 years old were included in this study. Symptoms of late onset hypogonadism were assessed with ADAM questionnaire. Clinical data, life style factors, and digital rectal examination were performed. Serum evaluations on total testosterone and prostatic specific antigen have been performed on subjects. Serum total testosterone was measured on morning blood sample. The data were analyzed for the presence of late onset hypogonadism and his relation ship with age and co morbidities. Univariate and multivariate analysis showed the relation between hypogonadism and ageing male.

Results

Two hundred and one subjects (64%) have clinical assessment of hypogonadism. 12,8% of men have low serum total testosterone. The mean age (±SD) was 59, 16 (± 8, 37) years. Hypogonadism was more prevalent in the subject group (30, 8%) with 50 to 59 years and 60 to 69 years (44,2 %). Mean value of low serum total testosterone didn't increased with age. Using the Androgen Deficiency in Adult Male (ADAM) scales, there were no associations between symptomatology and low serum total testosterone. Co morbidities like diabetes, hypertension, obesity, alcohol intake, tobacco use and age were not related to low serum testosterone. 17, 9% have PSA> 4 ng/ml and there no relationship between abnormal PSA level and hypogonadism. Testicular little size were independently associated to low serum testosterone respectively OR 3,326, 95% IC [1,688-6,552] p< 0, OO1.



Total testosterone mean in the different age-group

Risk factors	N (number)	Hypogonadism Number	%	P value
Age	407	52	12,8%	0,2106
Testicular size	45	15	33,3%	0,0001
Tobacco	101	18	17,8%	0,0846
Alcohol	33	4	12,1%	0,9020
Drugs	3	0	0,0 %	0,9906
Diabetes	17	4	23,5%	0,1866
Hypertension	25	5	20 %	0,2725
Obesity (BMI)	01	0	0,0%	0,6558
Chronically diseases	39	8	20,5%	0,1354
At least one risk factor	1	0	0,0 %	0,9917
More than one risk factor	26	5	19,2%	0,3159

Discussion

The aging process affects androgens production (TostainG 2004). The reduction of total testosterone is recognised and may be affected because of health and modifiable life factors effects (Travison TG 2007). In our study, only Testicular little size was independently associated to low serum testosterone, studies provide powerful support for it (Burris AS 1992).

Conclusion

Our study highlights that hypogonadism in ageing male is a reality. Low serum testosterone has not decreased with increasing age. Diagnosing and treating hypogonadism in adult male, who could benefit from testosterone replacement therapy without risk (mainly prostatic risk among others), is to take care of ageing male and to guarantee good quality of life. Further studies in African men might be necessary.