AFRICAN JOURNAL OF MEDICINE and medical sciences

Volume 36 Number 3 September 2007

ISSN 1116—4077

Afr. J. Med. Med. Sci. (2007) 36, 221-224

Erectile dysfunction in Nigerian hypertensives

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Summary

Erectile dysfunction (ED) is associated with hypertension and its treatment. It is known to impair and quality of life and compliance to treatment. This study excluded diseases which co-exist with hypertension as well as impair erectile function in their own right. This was to see how much of this problem could be ascribed solely to hypertension or its treatment. Thirty six untreated, newly diagnosed hypertensive males, 21 hypertensive males on thiazides and 37 non hypertensive controls were studied. Co-morbidities which on their own could cause ED were excluded. Erectile function, smoking and alcohol habits were documented. Patient groups were matched for age. Smoking rates were low. There was no significant difference in alcohol use among cases. Both hypertensive groups significantly had more ED than controls. Hypertensives on thiazides tended to have more ED than the untreated newly diagnosed group. ED is common in hypertensives even before treatment and tended to rise with thiazide use. Since it affects intimacy between couples adversely, impacting negatively on treatment outcome; it should be sought in all cases before treatment. Where present, appropriate management steps should be instituted to maintain quality of life and ensure compliance.

Keywords: *Dysfunction, erection, hypertension, Nigeria, males*

Résumé

Le mauvais fonctionnement Erectile (ED) est associé à l'hypertension et son traitement. Il est connu de comparer la qualité de la vie et l'adhérence au traitement. Cette étude exclut les maladies co-existant avec l'hypertension bien que le mauvais fonctionnement érectile et comment le problème pouvait être due uniquement à l'hypertension ou son traitement.Récemment, 36 cas non traités d'hypertension, 21 étaient traités avec les thiazides et 37 individus sains étudiés, les co-morbidités étaient exclues. La fonction érectile, fumer et les comportements alcooliques étaient documentés ; les patients étaient groupés en age. Le taux de fumeur était bas, il n'y avait pas de différence significative parmi les alcooliques. Les groupes d'hypertension avaient significativement plus de (ED) que les groupes sains. Les hypertensions traités avec les thiazides avaient tendance à être plus ED que les diagnostiqués non traités. L'ED est commun chez les hypertendus avant le RX et tend à accroître avec l'usage des thiazides en affectant sur l'intimité entre les couples, ayant un impact négatif sur le résultat du traitement. il devrait être recherché en tout cas avant le traitement. L'étape de gestion appropriée devrait être institué pour maintenir la qualité de la vie et assure l'adhérence.

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Introduction

Male erectile dysfunction (ED) has been defined as the inability to achieve or maintain penile erection sufficient for intercourse [1]. In literature, it has been used interchangeably with impotence. By whichever term it goes, this clinical condition places a great deal of psychological burden on the afflicted. There is an associated feeling of hopelessness, and in some cases worthlessness. Its psychological effects could be devastating. Hypertension is a common cardio-vascular disease in the tropics and indeed the world over. It is known to be associated with ED even without treatment [2]. Treatment can bring this about either by a reduction in perfusion pressure as blood pressure falls [1] or as side effects of drug(s) in use [3]. As such, impotence affects sexual intimacy with consequences like strained relationships. Quality of life (QOL) of such couples is also strained [4]. In practice, we encounter male hypertensives whose non or poor compliance with treatment revolves around this.

African literature is scanty on this subject. This study therefore set out to evaluate erectile function in newly diagnosed, untreated hypertensives and hypertensives on thiazide therapy. Thiazide diuretics are commonly prescribed for uncomplicated

hypertension in our environment. It is hoped that the study will shed more light in this area; and help patients and clinicians alike to confront this little talked about problem with far reaching consequences.

Methodology

Between November 2002 and October 2003, we embarked on a large study on serum uric acid and lipid profile in adult Nigerian hypertensives seen in Jos University Teaching Hospital. The study was cleared by the hospital ethics committee. As part of that study, we had sought information on erectile function in males during evaluation. This aspect was therefore interviewer – questionnaire based. ED was diagnosed if in some or all sexual opportunities, the patient was unable to sustain penile erection sufficient for intercourse. History of cigarette smoking and alcohol consumption was also sought. Smokers were stratified according to intensity of smoking: those who smoked less than 5 sticks daily were adjudged mild smokers, five to ten sticks daily as moderate smokers and use of 11 to 15 sticks or more daily as heavy smokers. Alcohol use was stratified as suggested by Abengowe [5]. Occasional drinker (< 3 bottles of beer on very few and special occasions), frequent drinker (3 bottles of beer or 200 mls of alcohol frequently) and heavy drinker (greater than or equal to 3 bottles of beer or 200 mls of alcohol daily for 8 years or more).

There were 3 groups of patients. Group 1 consisted of newly diagnosed, untreated hypertensives. Hypertension was diagnosed if the average of 2 readings (taken with mercury sphygmomanometer in the standard fashion), was greater than or equal to 140/90 mm Hg. on at least 2 occasions separated by two weeks. Group 2 was made up of previously known hypertensives who were only on thiazide treatment, and confirmed compliant by appropriate questioning. For all hypertensives, established secondary causes, co-existent diabetes mellitus, sickle cell disease, liver disease, deranged blood urea nitrogen, peptic ulcer disease, ischaemic heart disease or stroke of less than 6 months duration, thyroid disease and congestive cardiac disease served as exclusion criteria. The third group (Group 3) was made up of apparently healthy normotensive males. This was a consecutive series, and all patients were matched for age.

Descriptive statistics, group comparisons and correlations were made using the Epi – Info 6.04 computer soft ware. Further analysis where necessary, was done with SPSS Version 10.0. Continuous variables are given as mean ± SD and proportions as percentages. Chi-square with Yates correction where applicable, was used to determine statistical significance for categorical variables. Student t-test was used to assess significance of means between groups. One way ANOVA was used to ascertain the significance between means of more than 2 groups. $P< 0.05$ was considered statistically significant.

Results

A total of 94 patients satisfied the inclusion criteria. There were 36 in group 1, 21 in group 2 and 37 in group 3. Their mean ages were 52.4 ± 12.2 years, 57.1 ± 9.1 years and 51.0 ± 14.8 years respectively. The differences did not attain statistical significance even though the hypertensives tended to be older.

Seventeen (47.2%) reported ED in group 1, 11 (52.4%) reported same in group 2 and 2 (5.4%) reported ED among controls (group 3). There was statistically significant difference between group 1 and group 3 (Chi square = 16.4, d.f. =1, $p< 0.001$), as well as between group 2 and group 3 (Chi square = 16.6, d.f. =1, $p< 0.001$). No statistically significant difference occurred between groups 1 and 2 even though the rate in group 2 tended to be higher.

Table 1: Alcohol use in study subjects

Alcohol Use	Group 1	Group 2	Group 3
0	15	14	20
1	8	4	7
2	4	2	5
3	9	1	5

Alcohol Use Scale: *0 (No alcohol use),*
1 (Occasional drinker)
2 (Frequent drinker)
3 (Heavy drinker)

On reported alcohol use, the highest rate was among the treatment naïve recently diagnosed hypertensive patients in group 1(58%). It was 46% in the control subjects of group 3, but only 33% in the hypertensive group on thiazide treatment (group 3). There was no statistically significant difference between the groups. This would imply therefore that alcohol use would not impact on rate of ED in the study population. Table 1 shows the distribution of

drinkers in each stratum by groups. Interestingly, those hypertensives on treatment drank the least. On diagnosis, hypertensives are usually cautioned on alcohol use as part of life style modification.

Reported cigarette smoking was generally low in the study population especially among the hypertensives. For example in group1, only 3.8% smoked < 5 sticks daily, and another 3.8% smoked 5 – 10 sticks daily. No one smoked in excess of 10 sticks daily. In group 2, 2.0% smoked < 5 sticks daily. No one smoked 5 or more sticks daily. The results were therefore not analysed further.

Discussion

In the words of the Impotence study group of Western Australia, impotence has baffled and frustrated both the Pharaohs of ancient times and Presidents of our own times [6]. It is one of the factors adversely affecting drug compliance [4]. This study has shown that 47.2% of newly diagnosed untreated hypertensives had ED. For hypertensives on thiazide only treatment, ED was reported in 52.4%. The control group recorded only 5.4%. Since these groups were age matched, this finding is unlikely to have any bearing on age. Age is known to affect erectile function adversely [7,8]. Again it is unlikely to be due to alcohol consumption since there was no significant difference between the groups (Table 1). Alcohol abuse is known to adversely affect erectile function also [9].

There is no doubt that hypertension increases the propensity to ED in Nigeria [7,10,11] and elsewhere [12]; the mechanism however is controversial. Vascular disease [13], hormonal abnormality [14] and anti-hypertensive drugs [15] have been considered. However Jaffe *et al* [16] posited that contrary to common belief, the rate of a wide range of classic determinants of erectile function showed little difference between hypertensive and normotensive men. They called for more study on the local vascular/erectile apparatus to shed more light on the underlying factors for ED. In the unpublished experience of one of us (BNO), ED was found to occur more in hypertensives on multiple drugs than those on monotherapy; as well as in older hypertensives and with increasing duration of therapy. Requirement of multiple therapy for control is a reflection of disease severity. It could be surmised from the above that even though the individual factors may not on their own explain the different ED rates between hypertensives and normotensive controls, a combination and synergy between them could explain the differences. These factors are likely to cluster more in hypertensives than normotensives.

This study like many others has shown that even before treatment, hypertensives are burdened significantly with ED. The rate increases with treatment. The difference did not achieve statistical significance here, and may require a larger sample size to show. The ED rates in this study can be ascribed solely to hypertension. There was a deliberate attempt to rule out diseases which co-exist with hypertension, but on their own produce ED in the exclusion criteria. As ED strikes hard at the ego of the patient, with grave and wide ranging repercussions; it should be sought carefully in all hypertensives. Where it is found, markers of vasculopathy like dyslipidaemia, hyperuricaemia and cigarette smoking should be sought and corrected. The existence of ED should determine the choice of first line drug. Angiotensin receptor blockers would fit here, as they have been shown to improve erectile function [17]. It may still be necessary to add other drugs, since control is necessary to reduce disease severity; which may impact on ED. Sympathetic handling is necessary, and where indicated, drugs in the phosphodiesterase inhibitor class known to improve ED [9] may be prescribed alongside. This would ensure compliance with anti-hypertensives, limit mortality and morbidity consequences of hypertension; as well as maintaining quality of life.

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Received: 26/08/05
Accepted: 04/07/07