

Hypertension in elderly Egyptians

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ارتفاع ضغط الدم بين المصريين المسنين حسن حسن خليل

خلاصة : تُبين دراسات التعداد السكاني في العالم ، أن المسنين هم الفئة الأسرع تزايداً بين سكان البلدان المتقدمة صناعياً والأقل منها تقدماً على السواء . ولقد نُشرت خلال العامين 1991 و1992 نتائج ثلاث تجارب تدخلية حول ارتفاع ضغط الدم بين المسنين ، ومدى أهمية معالجة ارتفاع ضغط الدم في هذه الفئة . كانت تلك الدراسات هي البرنامج الأمريكي لدراسة ارتفاع ضغط الدم الانتقاضي بين المسنين ، والتجربة السويدية على المسنين المصابين بارتفاع ضغط الدم ، وتجربة المجلس البريطاني للبحوث الطبية حول المعالجة في كبار السن . وتبين من الدراسات الثلاث أن معالجة ارتفاع ضغط الدم يقلل خطر حدوث السكتة الدماغية والأحداث القلبية الوعائية . ولقد أبرز المشروع المصري لضغط الدم المرتفع في سنة 1993 أن هذه الحالة تمثل مشكلة صحية عمومية على الصعيد الوطني من الواجب مواجهتها . وتناقش المقالة إرشادات للوقاية الأولية بين سائر قطاعات المجتمع .

ABSTRACT Global census studies reveal that the elderly are the most rapidly growing population group in both industrialized and less industrialized nations. During 1991 and 1992, three major interventional trials dealt with hypertension in older subjects and the value of antihypertensive treatment in the elderly. These were the American Systolic Hypertension in the Elderly Program (SHEP), the Swedish Trial in Old Patients with Hypertension (STOP-Hypertension), and the British Medical Research Council Trial on treatment of hypertension in older adults. All three trials showed that therapy for hypertension in the elderly reduces the risk of stroke and cardiovascular events. In 1993 evidence from the Egyptian Hypertension Project highlighted hypertension as a national public health problem that must be addressed. Guidelines for primary prevention among all sectors of the community are discussed.

L'hypertension chez les personnes âgées en Egypte

RESUME Selon des enquêtes censitaires réalisées au niveau mondial, les personnes âgées constituent le groupe de population qui augmente le plus rapidement tant dans les pays industrialisés que dans les pays moins industrialisés. Trois grandes études d'intervention relatives à l'hypertension artérielle et à l'intérêt du traitement antihypertenseur chez les personnes âgées ont été publiées en 1991 et 1992. Il s'agit du programme américain sur l'hypertension systolique chez les personnes âgées (SHEP), de l'étude suédoise consacrée aux patients âgés souffrant d'hypertension (STOP-Hypertension) et de l'étude du Conseil britannique de la recherche médicale sur le traitement de l'hypertension chez les personnes d'un certain âge. Les trois études ont montré que le traitement de l'hypertension chez les personnes âgées réduisait le risque d'accident vasculaire cérébral et de troubles cardio-vasculaires. En 1993, les conclusions d'un projet égyptien sur l'hypertension ont fait apparaître que l'hypertension était un problème national de santé publique qui devrait être résolu. Des directives pour la prévention primaire dans tous les secteurs de la communauté sont examinées afin de traiter le problème de l'hypertension et de ses séquelles.

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Introduction

The elderly are the most rapidly growing population group in the world. In 1991 a report by the United States Census Bureau on comparative indicators and future trends in global aging revealed that elderly above the age of 60 constituted about 15% of the population [1]. It has been forecast that the number of elderly people in developed and less developed countries will increase by 59% and 159%, respectively, between 1991 and 2020.

Longitudinal data collected over a 30-year period has shown that the prevalence of hypertension increases with age [2]. The increase of arterial blood pressure which occurs progressively throughout life has been confirmed by the European Working Party on High Blood Pressure in the Elderly (EWPIIE) [3] which showed that about two-thirds of the elderly can be defined as hypertensive. While the majority of elderly hypertensives have elevated systolic and diastolic blood pressure, only 20% have isolated systolic hypertension [4].

Evidence from the Framingham study [2] showed that the risk of coronary heart disease increases as blood pressure rises. Hypertension is also the most common risk factor for cerebrovascular events and congestive heart failure [5]. The risk of coronary heart disease, stroke and congestive heart failure not only increases with advancing age, but with the degree of elevation of systolic blood pressure. A thorough knowledge of the multiple risk factors and essential needs of this growing subgroup of hypertensives is required.

Pathophysiology

The primary target organ in hypertension is the arterial system. The pathophysiology of

essential hypertension is characterized by increased peripheral vascular resistance due to hypertrophy of arterial vessel walls, which in the elderly is usually associated with a reduction in cardiac output. In elderly hypertensives, especially those with isolated systolic hypertension, the predominant vascular abnormality is reduced arterial distensibility [6].

In elderly hypertensives, arterial stiffening associated with age and hypertension is caused by the disturbance of the normal elasticity of the arterial wall which is a determinant of systolic blood pressure [7]. In addition, elderly subjects tend to experience modifications in other cardiovascular and renal parameters that regulate arterial blood pressure, such as increased catecholamine levels, reduced renal blood flow, reduced renal natriuretic capacity, reduced glomerular filtration rate and reduced baroreceptor sensitivity.

It is unclear whether these changes associated with renal vasculature are the cause or effect of increased blood pressure [8]. Reduced renal natriuretic capacity predisposes elderly hypertensives to hyponatraemia, particularly during thiazide therapy and to a higher likelihood to sensitivity to the pressor effect of dietary salt. With increasing age, the renin angiotensin system is suppressed in both normotensive and hypertensive individuals, leading to a much lower renin angiotensin activity.

Baroreceptor sensitivity is reduced because of increased arterial rigidity, resulting in a diminished ability to minimize short-term blood pressure fluctuations and predisposing the elderly hypertensive to dizziness and orthostatic hypotension.

The pathophysiology of coronary heart disease is similar in old and young patients, except that there is an increased incidence of asymptomatic myocardial infarction in the elderly [9]. Hypertension leads to increased

shear stress and intimal damage, while medial thickening predisposes arteries to atherosclerosis. Hypertension in atherosclerotic arteries may provoke the rupture of plaques with ulceration. The combination of diabetes mellitus and hypertension enhances the development of atherosclerosis. Pre-existing hypertension has a considerable impact on increased morbidity and mortality from myocardial infarction [8].

Impact of antihypertensive therapy

During 1991 and 1992, three major interventional trials were published that dealt with the value of antihypertensive therapy in the elderly. These were the American Systolic Hypertension in the Elderly Program (SHEP) [10], the Swedish Trial in Old Patients with Hypertension (STOP-Hypertension) [11] and the British Medical Research Council (MRC) trial on treatment of hypertension in older adults [12]. They compared antihypertensive treatment, mainly diuretics and beta-receptor blocking agents, or the two in combination, with placebo. Two of the trials (SHEP and STOP) were double blind, whereas the MRC trial was single blind. All three were multicentred, prospective and randomized. SHEP was specifically designed to evaluate antihypertensive treatment in patients with isolated systolic hypertension. All three trials showed that treatment of hypertension in the elderly reduces the risk of stroke and cardiovascular events. On the basis of these trials, it is apparent that therapy with low-dose thiazides or beta-blockers, or the two in combination, can produce highly beneficial results in elderly patients. Furthermore, the cost-benefit aspects of such treatment is at least as positive as in young and middle-aged hypertensive patients [13].

More recent studies are the Multicentre Trial on Treatment of Isolated Systolic Hypertension (SYS-EUR) and the Veterans Cooperative Study Group [14,15]. The therapy used in these studies included diuretics and calcium antagonists. These stand out as particularly effective in elderly subjects, while beta adrenergic blockers and angiotensin-converting enzyme inhibitors may be less suitable in this patient group [16]. In most countries, in accordance with the guidelines of the World Health Organization [17], newer antihypertensive drugs are increasingly being used as first-line agents.

Isolated systolic hypertension

Isolated systolic hypertension is common among the elderly and may have a guarded prognosis. The SHEP trial examined the value of antihypertensive therapy in elderly men and women with isolated systolic hypertension and showed that, compared with placebo, there was a highly significant reduction in stroke (36%), coronary events (25%) and episodes of heart failure (50%) following antihypertensive therapy.

The SYS-EUR trial in European countries confirmed the results of the SHEP trial. The MRC trial on older hypertensives (65–70 years) showed a 25% reduction of all cardiovascular events following treatment [10]. The STOP-Hypertension trial (70–84 years) showed that fatal and non-fatal strokes were significantly reduced by 47% while total mortality was reduced by 43% [11].

Challenge of coexisting disease

The elderly have age-related cardiovascular changes and a high prevalence of coex-

isting conditions that can considerably influence the choice of antihypertensive therapy, such as arrhythmia, bronchospasm, congestive heart failure, diabetes mellitus, hyperlipidaemia, left ventricular hypertrophy, peripheral vascular disease and renal impairment.

Goals of treatment

The ultimate goal of antihypertensive therapy is not only to prevent cardiovascular and cerebral complications, but also to improve the quality of life at a cost that can be borne by the community [18]. The SHEP trial demonstrated that therapy increased the prevalence of intolerable side effects in elderly hypertensives with isolated systolic hypertension.

It is against this background that treatment benefit in terms of fewer non-fatal coronary accidents, fewer non-fatal strokes and episodes of left ventricular failure should be viewed.

Most elderly hypertensives are symptom-free from hypertension. The large number of subjects who would be eligible for treatment and who, in the frailty of old age, would be exposed to sometimes deleterious side-effects of medical treatment, suggested that a more conservative approach should be taken than that offered to younger hypertensives. In addition, blood pressure measurements should be taken while patients are standing and supine to avoid orthostatic hypotension.

Prevalence in Egypt

Evidence from the Egyptian Hypertension Project [19], on a random sample of 6733 subjects in six governorates, revealed that the prevalence of hypertension is unusually

high (30.4%) for a developing country. The findings show that the prevalence was highest among elderly subjects (65–71 years). The prevalence of hypertension among elderly females was 71% and 55% for elderly men, thus reversing the higher prevalence among males before the age of 45 years. These two rising prevalence rates cross at about the age of 56 years when both males and females have the same prevalence of hypertension.

The steady growth in the number of elderly patients with hypertension in Egypt means that the country will face a serious national problem by the year 2000, when it can expect to deal with 10 million elderly hypertensives, and an even more serious one by the year 2020 when this number is projected to reach about 18 million.

Attention should be focused on the primary prevention of hypertension in order to deal with this major national problem. In 1995, the World Hypertension League Declaration [20] concerning hypertension control in developing countries stated: "Much can be achieved with modest means if there is adequate societal support. Hypertension control measures should be firmly based in primary health care. Health education, especially in the rural environment, and even promotion of literacy can be powerful support measures".

Mobilization of broad segments of society is probably the best approach to a problem of this magnitude. Better education and improvements to health and environment, as well as change in dietary habits and the encouragement of physical activity are basic programme requirements. The media should be used to raise public awareness of the factors predisposing to hypertension and its sequelae. These combined efforts should contribute to a lower prevalence of hypertension, less target organ damage and a better quality of life.

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