Atenolol in Hypertension: Efficacy - Compliance Study

Pages with reference to book, From 139 To 140

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Abstract

Atenolol was used in 55 patients with hypertension as a single dose of 100 mg initially and then increased to 200 mg daily for a period of twelve weeks. The drug was found to be effective and the rate of compliance was high on account of its single dose administration. The side effects were few and only two patients had to discontinue the drug because of side effects (JRMA 32:139, 1982).

Introduction

Hypertension is the commonest cardiovascular disorder in Pakistan (Syed ct al., 1980; Ilyas et aI., 1980). Beta-blocking drugs have added a new dimension to the management of this major cardiovascular disorder (Ilyas, 1976; l3asker, 1977; Vaughn Williams et al, 1980; Ibrahim et al., 1981). The concept of single-dose selective beta-blockade therapy is relatively new. We report our experience with the Use of oral atenoIol in the management of hypertension.

Material and Methods

Our series consisted of 53 consecutive cases of hypertension: males 29 and females 24, age range 19-71 years (mean 46 years). Medical examination, hacmoglobin, E.S.R., urinalysis, chest x-ray, electrocardiogram and blood urea estimations were carried out in each case. Patients with congestive cardiac failure and bronchial asthma were not included in the study. Three (5.7%) cases had mild to moderate renal. failure, 5 (9.4%) cases had coronary heart disease and 2(3.8%) cases had cerebrovascular disease.

Atenolol was given 100 mg per day, and increased to 200 mg per day in 7(13%) cases, for a period of twelve weeks. Atenolol was withdrawn in 3.8% cases; in one due to dizziness and in the other due to impotence.

Results

Side effects included dizziness 3(5.7%) cases, fatigue feeling 2(3.8%) cases and dyspepsia in one (I . 9%) cases.

Discussion

Atenolol administered intravenously produced no effect on left ventricular pressure, product of systolic time index and heart rate, but reduced max dP/dt and Ki Max without any change in coronary blood flow or myocardial oxygenu uptake (Thompson et al., 1980). Serum levels of atenolol have shown to rise linearly, with average elimination half life of about 10 hours, with long term oral administration (Jackson et al., 1980).

Compared to methyldopa and other beta blockers atcnolol has been found to be an effective antihypertensivc agent (Basker, 1977; Zacharias, 1977). In a comparative study with chlordiz epoxide atenolol significantly produced feLlings of well being and relaxation, without sedative effect (Betts and

Blake, 1977). Propranolol and atenolol did not influence psychomotor perform-ance as compared to methyldopa and reserpine (Clayton et al, 1973).

In a series of 12 hypertensive cases, with flermal left ventricular size and function atenolol (100 mg/day for 8 weeks) produced reduction in mean arterial pressure, cardiac index and stroke index as measured by echocardiogram (Ibrahim et al., 1980). Atenolol is cardiosclcetive but has no intrinsic sympathornimetic or membrane stabilising activi tv; it Produces marked reduction in cardiac output with little or variable effect on peripheral vascular resistence, and experimentally has no negative inotropic effect.

In a Series of 30 cases of mild hypertens:ou selective beta blocker atenolol and metoprolol were compared with non-selective beta-bockers propranolol and pindolol in a double-blind study (Vaughn Williams et al., 1980). The meaii effect of the two groups on hypertension was similar, and an adaptive bradycardia was observed in 17,30 (57%) cases. Significantly greater bradycardia was evident with selective beta-blockers at rest, and greater at exercise with non-selective beta-blockers, and the same peak rates were obtained on exercise by the two groups (Vaughn Williams et al., 1980).

Cumulated side effects of atenolol, observed in a four years period in 543 patients, included cold extremities 14(2.6%) caSes, fatigue 21 (3.9%), dizziness 4(0.7%) cases, bronchospasm 16(2.9%) cases and worsening 0f elaudication 6(1. . 1%) cases and impotence in 1(0. 18%) case (Simpson, 1977).

Table I

Results of Hypertension Control with Atenolol*

N-53

Excellent	*Good*	*Fair*	*Poor*
12(22.7%)	22(41.5%)	13(24.5%)	6(11.3%)

*dose related blood pressure control.

In our experience ateflolol has been found to be an effective anti-hypertensive agent with a high compl ance rate. Only two caSes discontinued the drug due to minor side effects, and remaining patients found it very convenient to take one to two tablet every morning.

Acknowledgement

We are indebted to Imperial Chemical Industries (Pakistan) Limited for help in the preparation of the paper.

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