

Treatment of severe hypertension with atenolol and betaxolol with once-daily regimens. Hemodynamic aspects

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Abstract:

The effectiveness and safety of once-daily administration of drugs in the treatment of moderate to severe hypertension was studied. Forty men taking diuretics were randomized to atenolol (A, n = 18), 50 mg/day, or betaxolol (B, n = 22), a new B1-blocker, 20 mg/day, if their SDAP was 105 to 125 mm Hg at baseline (weeks 2 to 4). At week 6, if SDAP was greater than 95 mm Hg, minoxidil (M), 5.5 mg/day, was added. The patients were seen every two weeks to week 16 (end of drug titration) and then every four weeks to week 32. The dosages were increased to 200 mg/day for A, 80 mg/day for B, and 20 mg/day for M as needed. Physical examinations, chest x-ray films, ECGs, echocardiograms, spirometric studies, 24-h ambulatory arterial pressures (AAP), and blood chemistry analyses were done at baseline and during treatment. A and B combined with a diuretic (furosemide, F) and M decreased the arterial pressures and heart rates equally well by both clinical and AAP measurements (p less than .001). The IVS was decreased (p less than .05), whereas LVIDd, RVIDd, and cardiothoracic ratios were increased by both A and B (p less than .05, p less than .01). No changes were noted in LVPW, LVM, EF, FS, spirometric values, or blood chemistry analyses. Common side effects were weight gain, edema, and hypertrichosis. Once-daily administration of A or B in combination with F and M were effective in the treatment of moderate to severe hypertension. Although effective, prolonged use of M may lead to volume overload and cardiomegaly. The significance of these latter findings is not yet known.