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November 12-15, 1984
Miami Beach Convention Center
Miami Beach, Florida

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1. Hypertension
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MICROVASCULAR EFFECTS OF CHRONIC VERAPAMIL TREATMENT IN SPONTANEOUSLY HYPERTENSIVE RAT

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Verapamil was given via subcutaneously implanted osmotic minipumps for 2 weeks at a continuous dose of 0.85mg/100gm/day.Thereafter, direct observation and measurements in the rat cremaster microvasculature of the verapamil treated group (VERAP,n=11, 6-7 wks) were compared with a sham implanted group (SHAM,n=11). Arteriolar diameter(D), blood flow(Q), and micropressure(P) were determined in 3 branching orders (A1,A2,A3), under control conditions(CC), maximal dilation(MD), and after graded doses (2-1000 nM) of topically applied norepinephrine(NE). The VERAP group had a lower heart rate (333 vs 370/min, $p<0.01$), and lower mean systemic blood pressure (111 vs 124 mmHg, $p<0.01$), but the fraction of this pressure transmitted to A2 in the VERAP group was greater (44 vs 37%, $p<0.01$) as were the VERAP A1 diameters under CC (71μm vs 64μm, $p<0.05$). These were the only differences between groups under CC. With MD, Q increases and P decreases were noted at all branching levels, but no further differences between groups were found. There were no differences in the responses of any parameter to NE challenge. The results suggest that the main vascular component of the antihypertensive action of verapamil resides in vessels upstream from the microvasculature.

The author affirms that the material herein will not have been previously published as a manuscript or presented at any national meeting, that any animal studies conform with the "Guiding Principles in the Care and Use of Animals" of the American Physiological Society and that any human experimentation has been conducted according to a protocol approved by the institutional committee on ethics of human investigation or — if no such committee exists — that it conforms with the principles of the Declaration of Helsinki of the World Medical Association (*Clinical Research* 14:193, 1966).

Author's signature Harvey N. Mayrovitz

The undersigned certifies that all authors named in this abstract have agreed to its submission for presentation at the AHA Scientific Sessions.

Author's signature Harvey N. Mayrovitz