Rauwolfia Serpentina

Prolonged Use in Elderly Hypertensive Patients

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• In a group of older, arteriosclerotic hypertensive patients treated with an extract of Rauwolfia over a long period, a mild hypotensive effect was noted after weeks, or occasionally months, of therapy. No dramatic responses were seen, but the so-called "tranquilizing" effect was readily apparent and was appreciated by the patients. Side effects were usually relatively minor, were transient and rarely necessitated stopping the drug.

THE NEWEST of the hypotensive agents, the alkaloids of Rauwolfia serpentina, have been widely used in the United States in the past year. Although for centuries they have been used empirically in India for a variety of conditions, that they were effective in relief of hypertension was first commented on by Bhatia[1] in 1942. Subsequently other clinical investigators working in India confirmed the effectiveness of the drugs for that purpose.[2,4] More recently, Vakil[6] in a short-term study observed a significant decrease in both systolic and diastolic blood pressure of patients to whom the drug was given. Wilkins and Judson[8] treated 39 patients with Rauwolfia alone for short periods of time and observed an average drop of 26 mm. of mercury in the systolic pressure and 17 mm. in diastolic pressure. Ford and Moyer[3] used Rauwiloid®* as the sole hypotensive agent in 42 patients for short periods and expressed belief its greatest usefulness was in the treatment of mild hypertension or, in combination with hexamethonium, in more severe cases. Seliger[5] and Vida[7] also reported brief studies in which it was noted rauwolfia had better effect than barbiturates.

None of the investigators mentioned presented long-term observations, nor has the effectiveness of the alkaloids in older hypertensive persons been evaluated. The purpose of the present report is to relate observations on the effect of Rauwiloid in a group of older arteriosclerotic-hypertensive patients who were followed for over a year.

The subjects were 22 members of the domiciliary unit of the Veterans Administration Center, Los Angeles. They were all ambulatory and on unrestricted diets with the exception of two who were on a low sodium regimen. Rauwiloid was the only hypotensive agent used during the period of study. None of the patients was receiving barbiturates.

The blood pressure of each subject was recorded once a week throughout the period of study by one of two observers. No specific questions were asked regarding anticipated side effects. The patients were encouraged to report any unusual symptoms. Thus the side effects noted in this communication were mentioned voluntarily by the patients. Pertinent data with respect to the cardiovascular status of these patients at the onset of study are shown in Table 1.

At first some of the subjects were given a Rauwolfia extract and others a placebo, neither the medical personnel nor the patients knowing which were receiving which. It was soon realized that a definite but mild hypotensive effect could be elicited in short term therapy in some of the patients. Therefore, all the patients were treated with one of the Rauwolfia extracts. At first they were given tablets of ground root of Rauwolfia serpentina. Subsequently the alkaloidal extract became available and was used in the remainder of the study. The earlier crude preparation was identified in terms of its content of the root but the purified preparations were identified according to alkaloidal content. The tablets used for the greater part of the study were 2 mg. tablets of alseroxylon fraction (Rauwiloid) and the dosage was one or two tablets at bedtime. For short periods, one tablet three times a day was given.

The group studied comprised older hypertensive patients who undoubtedly had major arteriosclerotic components (Table 1). Many of them were known to have had hypertension for over five years with only slight involvement of heart, brain or kidneys.

In Table 2 can be seen the average of the blood pressures at various times during therapy. Five of the 22 patients had decrease of at least 20 mm. of mercury in the systolic and 10 mm. in the diastolic pressure during the first ten weeks of therapy. Eight others had a similar decrease during the first year of therapy. Four more patients had a 10 mm. decrease in both systolic and diastolic pressure. Thus 17 of the 22 patients had mild hypotensive effect after varying periods of administration of the drug.

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Supported in part by a grant from the Riker Laboratories, Inc., Los Angeles.

*Riker Laboratories' brand of a reproducible alkaloidal mixture from Rauwolfia serpentina.

TABLE 1.—*Data on condition of 22 hypertensive patients in higher age brackets before use of Rauwolfia extract.*

Patient	Age	Race	Duration Hypertension (years)	Highest Blood Pressure Before Study (mm. mercury)	Cardiac Symptoms	Electro-cardiogram	Fundi* Classification	Cerebral Symptoms
1.	62	White	6	230/132	HCVD Angina	A	2	CVA
2.	61	White	2	196/116	0	N	0-1	D
3.	64	White	2	210/120	0	A	1	0
4.	59	White	3	216/118	0	A	1	0
5.	57	White	1	210/112	0	N	1	0
6.	63	White	4	208/120	0	N	1	H
7.	66	White	9	230/134	0	N	1	D
8.	55	White	1	204/118	0	N	2	DH
9.	65	White	2	208/106	0	A	1	CVA
10.	61	White	15	226/128	HCVD Failure	A	2	H
11.	61	White	11	252/130	HCVD	A	1	H
12.	56	White	18	190/130	0	N	2	0
13.	56	Negro	16	202/122	0	N	2	0
14.	65	White	17	224/118	Angina	N	1	CVA
15.	59	White	1	178/102	0	N	1	H
16.	63	White	11	204/118	HCVD	A	2	H
17.	54	White	5	192/114	0	N	2	0
18.	64	Negro	8	196/122	0	N	2	DH
19.	61	White	5	184/108	Angina	N	0	DH
20.	71	White	20	238/118	0	A	2	H
21.	65	Negro	14	210/130	Angina	A	1	H
22.	56	White	2	206/108	0	N	....	H

Abbreviations: HCVD = Hypertensive cardiovascular disease. H = Headaches. N = Normal. D = Dizziness. A = Abnormal. CVA = Cerebrovascular accident.

None of these patients had evidence of renal failure as indicated by nitrogen retention.

*Keith-Wagener classification.

TABLE 2.—*Blood pressure determinations during therapy with Rauwolfia extract.*

Patient	Control* Period Including Placebo	First 10 Weeks of Therapy	Last 10 Weeks of Therapy	Placebo† Eight Weeks
1.	180/105	170/100	170/105	185/100
2.	180/115	160/95	160/100	.....
3.	175/90	155/95	165/90	175/100
4.	205/100	195/100	185/95	.....
5.	185/100	160/90	165/90	.....
6.	170/110	160/95	150/90	165/100
7.	200/110	205/110	180/95	195/105
8.	175/110	170/110	.....	.....
9.	180/100	165/90	160/90	185/105
10.	205/105	180/100	170/95	.....
11.	235/120	220/110	185/105	195/110
12.	175/100	155/90	.....	.....
13.	185/110	175/100	145/85	165/90
14.	200/105	170/90	165/90	195/100
15.	165/100	150/90	145/85	150/95
16.	190/95	195/100	200/100	205/95
17.	180/100	160/95	160/90	175/100
18.	175/110	170/105	180/110	185/105
19.	170/110	170/95	165/95	185/100
20.	235/110	230/115	205/110	.....
21.	195/105	190/100	155/80	185/90
22.	180/100	185/90	170/95	.....

*Blood pressures are averages of at least six weekly determinations.

†After completing 62 weeks of therapy.

The 14 patients who were observed for 62 weeks received placebos at the end of that period, and 12 of them thereupon had a rebound in blood pressure.

During the course of treatment more than 70 per cent of the patients said, unasked, that they felt better. It is, of course, difficult to disassociate this symptomatic improvement from the psychotherapeutic effects of weekly medical attention, but such remarks as "I sleep better," "I'm less jittery" and "I feel good" were often heard. Of the 13 patients with headache or dizziness, eight at some time noted relief of these symptoms.

Blood cell counts and blood urea nitrogen were within normal limits at the end of the study, as were results of cephalin flocculation and thymol turbidity tests. During this period, no complications of hypertensive vascular disease occurred.

Side effects were generally mild. At the start of therapy five patients complained of increased frequency of bowel movement. This cleared without change in administration of the drug. One patient who had a mild drop in pressure complained of dizziness after eight months of therapy. This was attributed to the medication, as relief and reappearance of dizziness were correlated with the administrations of placebo and drug respectively. No nightmares or nasal congestion were noted and no gastric intolerance for the drug was manifested.

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