Hypertension is a many-sided disease both in its causes and symptoms. To judge the success or failure of its treatment, it is therefore necessary to adduce several different criteria. Since there is no absolute criterion in the complex symptoms of hypertension by which the success of the therapy can be conclusively judged, all investigations regarding the value of any hypertension-therapy must first deal with its blood-pressure-decreasing effect.

We investigated by the following methods, the clinical usefulness of the total alkaloids of the Indian drug, *Rauwolfia serpentina* on 84 Poly-clinic patients whose high blood-pressure had been observed at our clinic for 1¼ years on an average, and who were treated ambulantly by diet and medicines:

(a) by a statistic evaluation of all blood-pressure – readings according to the method developed by MARTINI, and

(b) by consideration of subjective and objective changes in organic deviations resulting from hypertension.

The classification of the patients was done according to several overlapping points of view.

(1) Genetically, essential hypertension was separated from renal hypertension. But in the last group were classified three persons whose renal complications were the most essential part of their ailments, though a renal genesis of the hypertension was not certain.

(2) According to the behaviour of the blood-pressure, we classified fixed hypertension, labile hypertension and an intermediate stage, which we reserved for the hypertensives with varying blood-pressure-values who never showed normal values in the observation – sequence.

(3) We further applied the classification of hypertension according to SMITHWICK, which relates half the diastolic pressure to the height of the blood pressure amplitude. For type 1, the blood-pressure-amplitude is smaller than half of the diastolic pressure; type 2 shows a blood-pressure-amplitude which is equal or up to 19 mm Hg larger than half the diastolic pressure. For type 3, the amplitude exceeds half the diastolic pressure by 20 mm Hg and more.
We classified patients with changes in the fundal picture due to hypertension into the following groups:

(a) incipient fundal changes due to hypertension,
(b) distinct fundal changes due to hypertension,
(c) incipient spasticity of the retinal vessels,
(d) distinct spasticity of the retinal vessels,

To examine special effects, the foremost organic manifestations were divided into cardiac, cerebral, retinal, and hormonal deviations as well as peripheral resistance.

Our results show that, at least half of all hypertensive patients treated ambulantly with the total alkaloids of *Rauwolfia serpentina* manifested a decrease in the blood-pressure. We have not obtained such a high proportion of success under ambulant conditions with any other therapeutic agent we have used so far.

The decrease of the systolic pressure was noted in 59% cases whilst the decrease in diastolic pressure was noted in 41%. The prospects of success for nephrogenous hypertension being 44%, are somewhat lower than those for essential hypertension.

When the decrease in blood pressure after *Rauwolfia serpentina* treatment was worked out statistically for each stage of hypertension we found 52% positive results in the case of liable hypertension. In the intermediate stage i.e. the most frequently encountered stage, there were 54% successes. In the group of fixed hypertension the chances of success were less.

**SUMMARY OF THE RESULTS**

After ARNOLD and BOCK had investigated the efficacy of the total alkaloids of *Rauwolfia serpentina* with regard to hospitalised patients, we were reasonably sure of success when we tried the usefulness of the drug on ambulant patients. Our resolution was strengthened by the fact that its efficacy in lowering the blood pressure and ameliorating subjective complaints clearly surpassed that of all medicaments examined so far. Even when applying very strict criteria, blood pressure decrease could be secured in 50% of the cases when treated with the total alkaloids of *Rauwolfia serpentina*. Comparative experiments carried out by us revealed that RESERPIN, the crystalline pure alkaloid from the same drug did not give even approximately the same favourable result.

Apart from the hypotensive effect, the high percentage of subjective improvements claims attention. However, we could not substantiate these statements by corresponding objective improvement in the fundal picture, ECG and renal-function. Most patients stated that nocturnal frequency, headache, dyspnoea, ear-buzzing, over-excitability were markedly less whilst there was an increase in the ability to concentrate. Unsubstantiated though such
statements were, the subjective improvement with *Rauwolfia* alkaloids is a fact, which has to be admitted nevertheless.

The subjective improvement does not run parallel to the hypotensive effect. Most of the patients who did not show a marked decrease in blood-pressure still showed a subjective improvement. There were only a few patients with nephrogenous and fixed hypertension who showed neither a pressure-decrease nor subjective improvement after *Rauwolfia serpentina* administration.

Another important effect of the *Rauwolfia* alkaloids investigated by us (Kleinsorge, Wittig, Rosner), is that during the *Rauwolfia* treatment, the usual systolic blood-pressure-increase, occurring under physical stress, is damped; thus preserving the blood vessels and decreasing the myocardial strain. This should have considerable therapeutic and prophylactic value. Lassitude, a mild laxative effect and occasionally also, hyperaemia of the nasal mucosa were the side-effects of the treatment.

In spite of scrupulous critical evaluation, the therapeutic success we achieved surpasses the potentialities of all other treatments of hypertension practised so far.

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