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REMISSION OF HYPERTENSIVE DISEASE

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### REMISSION OF HYPERTENSIVE DISEASE

[ Following is the translation of an article by A.V. Kolosov and N.K. Belayeva entitled "Obratnoye Razvitiye Gipertonicheskoy Bolezni" (English version above) in Klinicheskaya Meditsina (Clinical Medicine), Vol. XLI, No. 6, Moscow, 1960, pages 19 to 24. ]

The Institute of Therapy of the Academy of Medical Sciences USSR (Director - active member of the Academy of Medical Sciences USSR Prof. A.L. Myasnikov)

The contemporary literature contains many discussions of the etiology, pathogenesis and treatment of hypertension. However, very few studies have been devoted to the possibility of treating hypertension with complete recovery. At the same time, a clarification of the conditions of remission in this disease might aid in furthering our understanding of the pathogenesis of hypertension and also in helping us to develop more effective treatment.

In the present article we shall not touch on cases of remission of hypertension as the result of myocardial infarction, cerebral vascular disorders, or associated diseases which aggravate the patient's general condition (such as malignancy).

Evidence of the possibility of treating hypertension for

purposes of remission is to be found in the works of A.B. Tsinam-zvarzhvili, G.P. Lang, A.B. Gyasnikov, and Ye. M. Tarayev. Remission in hypertension, in some cases to the point of complete disappearance of all subjective and objective manifestations of the disease, has been observed by a number of authors (L.T. Antonova; A.A. Gzanskiy and T.S. Shchenderik; V.V. Syrnev; A.M. Saughtina; G.S. Britanishskiy and V.F. Meylunas; G.V. Tsabadze and associates) and has been interpreted differently by them.

Thus, G.S. Britanishskiy and V.F. Meylunas, A.A. Gzanskiy and T.S. Shchenderik refer to such a course of the disease as recovery; A.M. Saughtina believes that it is premature to speak of recovery in such cases, while V.V. Syrnev, observing in some patients a remission over prolonged periods, considers this a spontaneous and protracted remission similar to that seen with peptic ulcer.

Certain observations and reports are supported by conflicting data. Thus, L.T. Antonova indicates that juvenile hypertension in the transitory stage progresses, in nearly all cases, to hypertension characterized by stable and severe hypertension, whereas A.A. Gzanskiy and T.S. Shchenderik have observed transitory hypertension in juveniles which terminated in recovery in half of the cases.

In a number of reports, the conclusion that there are remissions in hypertension <sup>is based not</sup> on the results of prolonged systematic treatment and clinic observations but only on the findings of second observations of the patients after a period of several years (G.V. <sup>1</sup>

Tsabadze and associates). In other reports (V.V.Syrnev), data are given on some of the patients during periods of normal pressures; the presence of hypertension in these patients in the past was confirmed by special history-taking. Naturally, in such studies, the process of regression of the manifestations of the disease could not be followed nor could there be a corresponding evaluation of the factors causing remission. Moreover, in a number of studies of remission in hypertension (V.V.Syrnev and others), one could not completely exclude the influence on the course of the disease of concomitant and progressive atherosclerosis; consequently, these observations cannot be accepted as examples of favorable outcomes of anti-hypertensive therapy.

In carrying out our work, we undertook to ascertain the possibility of a stable partial or complete remission in the objective and subjective signs of hypertension. In this we confined our task to the clarification of the possibility of treating patients only in different stages of the disease under the influence of favorable factors: the prolonged effectuation of different preventive measures and systematic treatment of the patients. Hence the patients in which a tendency was noted in the direction of remission of hypertension against a background of the development of some other disease state were not included in our study.

For the solution of our task we carried out extensive outpatient observations of 300 patients with hypertension. Of this number 112 were in stage I, 85 in stage IIA, 63 in stage IIB and

40 in stage IIIA. 95 patients were under 40 years of age, and 205 over 40. Observations were carried out for a period of eight to ten years in 212 patients, five to seven years in 50, and less than five in 38 patients.

The 300 patients were divided into two groups. The first group included 183 patients working in two Moscow factories and principally in the early stages of hypertension (stages I and occasionally IIIA). Out-patient observation of this group of patients was carried out at the plants themselves. The second group comprised 117 patients in the later stages of hypertension (IIB and IIIA) who had been studied and treated systematically on an ambulatory basis in the out-patient department of the Institute, as well as having been hospitalized in the clinical division of the Institute.

During the period of observation of the patients, we carried out a complex of therapeutic and prophylactic measures. We began the prophylactic measures with a careful study of the life history and of the particulars of the development of the disease in each patient. In this we attempted to determine the influence on the course of the disease of the nature and amount of work done by the patient, as well as the effects of different factors of a living, working, and personality nature, in order to attract the attention and direct the energies of the patients to the removal of unfavorable factors.

All patients observed by us at the plants were examined reg-

ularly not less than, once every two months during the first five years; later we examined them three to four times a year. During the examinations we gave instructions of a didactic nature (concerning the routine of living, physical exercise, diet appropriate to hypertension, and so forth).

Work was arranged in the plants for the hypertensive patients in accordance with our instructions. They performed industrial work not involving exceptional stress. In addition, they were not assigned to technical operations which would have been stressful for them because of individual peculiarities: some workers were intolerant of fast work, others found monotony in a process bothersome. The majority of patients reported from one to four times to the emergency room for hypertensive patients; a large number of them were sent to rest and health homes with the attendance of physicians of the sanitation divisions of the industrial plants.

Our experience showed that, in the majority of patients with stages I or IIA hypertension, the complex of prophylactic measures was accompanied by a favorable effect. However, in some of the patients during the first years of observation, in addition to prophylactic measures we resorted to short courses of ambulatory treatment with medications (sedatives and anti-hypertensive agents), and 17 of the patients were hospitalized in the clinic of the Institute of Therapy for treatment.

In patients of the second group (IIB and III, <sup>stages of</sup>hypertension)

in addition to the prophylactic measures we administered systematic treatment during the entire period of observation. These patients, as a rule, were subjected either yearly or once every two to three years to a thorough clinical study with treatment in the Institute of Therapy (some of them, in addition, were treated also in other clinical institutions once or twice). During the period of observation, of 188 patients with hypertension in stages II and III, 90 were treated from three to ten times in the clinic. Between courses of hospitalization, the patients were given systematic therapy in the out-patient department of the Institute (sedatives, anti-hypertensive agents, hormones, rauwolfia preparations, and so forth).

Prolonged observation of hypertensive patients in all stages showed differences in the course of the disease: first, there was recovery (normal arterial pressure and absence of other symptoms of the disease for periods of five years or more); second, remission (disappearance of all manifestations of the disease characteristic of any stage, with retention of <sup>the</sup> manifestations of a preceding, earlier stage); third, improvement (with respect to subjective and objective indices); fourth, stabilization of the disease (absence of deterioration in subjective and objective indices); and fifth, progression of the disease and death. The data of our observations are shown in the table.

PROLONGED OBSERVATION OF THE COURSE OF HYPERTENSION

Стадия гипертензивной болезни	Количество больных	Выздоровление	Обретение ремиссии	Улучшение течения болезни	Стадия процесса	Прогноз	летальных исходов
I	112	68	—	—	40	4	—
IIA	85	11	13	7	43	11	—
IIB	63	—	1	9	35	15	3
IIIA	40	—	—	5	15	10	10
Total . . .	300	79	14	21	133	40	13

Table

- KEY:
- 1) Stages of hypertension;
  - 2) Number of patients;
  - 3) Recovery;
  - 4) Remission of the disease;
  - 5) Improvement in the course of the disease;
  - 6) Stabilization of the process;
  - 7) Progression of the disease;
  - 8) Fatal outcome



Prolonged and systematic measures, both prophylactic and therapeutic, were accompanied by the best therapeutic effect in patients in stage I. Of the 112 patients in stage I, 69 (60.7 percent) recovered, 40 (35.7 percent) showed stabilization of the process, and only four/suffered progression of the disease. (3.6 percent)

By the end of treatment in these latter patients, stage II hypertension had supervened.

A positive therapeutic effect was also noted in patients in stage IIIA. Of 85 patients, 11 recovered <sup>and</sup> 13 showed remission. In these 13, over the course of the last three to five years, all manifestations of the disease characteristic of this stage have been absent; only signs of stages IA and IB have remained. In seven of the 85 patients, there has been a stable improvement in the disease, and in 45 no significant changes in the clinical picture have been observed. Finally, in 11 patients the disease has progressed.

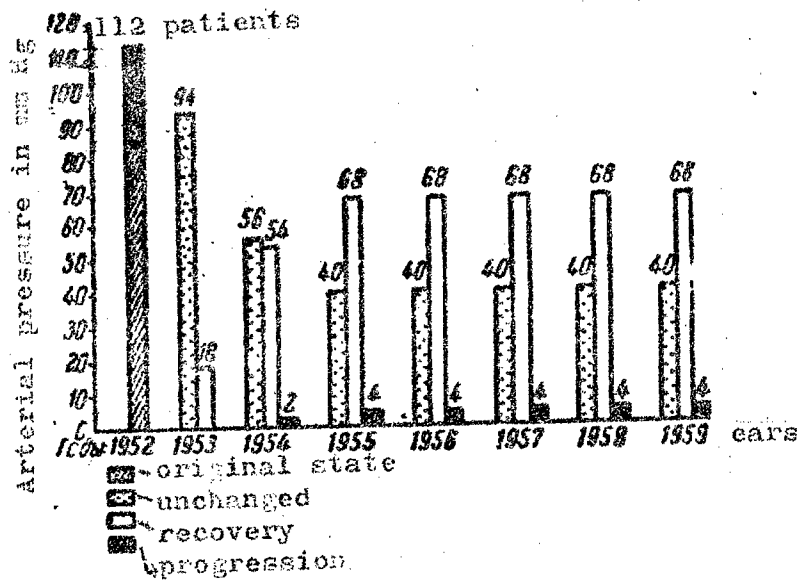
Prolonged and systematic prophylactic and therapeutic measures, including repeated hospitalizations in the Institute, in patients in stages IIB and IIIA of hypertension, were accompanied by a considerably less marked therapeutic effect than in those in stages I and IIA. Thus, of 63 patients in stage IIB, only one patient recovered, only one underwent remission, and only nine showed stable improvement. In 35 of the 63, there was stabilization of the process. In 15 there was progression of

and three died as the result of arterioneurosclerosis or cerebral vascular accident.

Finally, of 40 patients in stage IIIA, only 20 showed improvement or stabilization of the process; in ten there was progression of the hypertension and ten died as the result of cerebral vascular accident, arterioneurosclerosis, or myocardial infarction. Consequently, in stage IIIA, half of the patients exhibited an unfavorable course of the disease.

Hence, out-patient observations showed that only early therapy in this disease is accompanied by complete recovery in the majority of cases. We cannot agree, in connection with this, with the position adopted by certain outstanding foreign authors (Pickering) who believe that patients with early or occult symptoms of essential hypertension need not be treated and should, in general, not be considered ill. Rather, in order to obtain the maximal effect, it is necessary even in patients with stage I hypertension to carry out prolonged and systematic measures of prophylaxis and therapy (see figure). The figure shows the data characterizing the changes in arterial pressure in patients in stage I hypertension during eight years of observations with the use of prophylaxis and treatment.

In 1952 we began outpatient observations of 112 patients with stage I hypertension. As the result of adherence to regimen, work arrangements, and other prophylactic and therapeutic measures, during the course of the first one and a half years there



Influence of therapeutic and prophylactic measures on the course of stage I hypertension

was a stable reduction in arterial pressure to normal levels in only 15 patients. During the second year the number of patients with pressures stabilized at normal increased to 54, and during the third year to 68. During ensuing years the results obtained in the first three years were confirmed. Hence, to obtain the maximum effect in patients in stage I, prolonged effectuation of therapeutic and prophylactic measures is required for a period of at least two to three years:

As our experience has shown, the results of treatment even in patients with the late stages of hypertension depend on the duration, character of treatment, discipline of the patient in

carrying out the regimen suggested by the physician, conditions of work, living conditions, and other factors.

The favorable changes which we noticed in the course of the disease were not <sup>merely</sup> an indication of a tendency to spontaneous remission of the disease, as has been suggested by other authors (V.V. Syrnev and others). In this respect the data relating to the 69 patients in the later stages of hypertension (IIB and IIIA), repeatedly treated in the clinic of the Institute, are illustrative. Of these 69 patients, 12 were treated in hospital only twice during the course of the entire period of out-patient observation, 20 were treated three times each in hospital, and 37 were hospitalized from four to ten times. The results of treatment were worst in the 12 patients hospitalized only twice each (in none of them was there stable improvement, while in seven there was progression of the disease, with death in several). In 20 patients treated three times each in the hospital, the therapeutic effect was slightly better. Finally, in patients treated from four to ten times each in the hospital, the therapeutic effect, as compared with the other patients in the late stages, was rather good: in seven there was stable improvement, and only four of the 37 died.

These observations not only show the importance of repeated hospitalization in the total complex of therapeutic and prophylactic measures applied to patients in the late stages of hypertension, but also testify to the influence of systematic support-

ive treatment on the course of the disease.

Let us present one case.

Patient K. is 50 years of age. Diagnosis: hypertension, stage IIIA. In 1944, the patient was found to have extremely high arterial pressures (260/160 to 220/140 mm Hg). In 1948 he was treated twice with hospitalization in the regional hospital, and beginning in 1949 he was observed regularly in the polyclinic of the Institute. During <sup>the</sup> ten year period he was hospitalized seven times in the clinic.

Treatment under clinical conditions was accompanied each time by a definite positive effect: there was a reduction in the arterial pressure and improvement in his general feeling of wellbeing. However, after release from the clinic, despite systematic and faithful observation by the patient of all physician's orders and continuation of his treatment under ambulatory conditions, the arterial pressure again increased to high levels. In 1949 marked changes in the urine were noted repeatedly: protein, red cells, hyaline and granular casts. A mild hypercholesterolemia was also noted (360 mg percent).

In recent years the state of the patient has begun to improve. In 1951 he regained his work capacity. The patient carried out his entire work load (as an engineer) and did not require work releases in connection with his hypertension. He no longer showed tendencies to hypertensive crises, and there was marked improvement in his general condition and amelioration.

of his headaches; in the course of the last two years he has ceased experiencing pain in the heart region. Since 1951, and over the course of the succeeding years, no changes have been noted in the urine and hypercholesterolemia has disappeared. Although the level of arterial pressures has remained very high, the extremely high pressures (250/150 to 270/150 mm hg) observed early in the course of his disease have not recurred.

In conclusion it should be emphasized that our prolonged observations of patients with hypertension indicate that a maximum effect, in the sense of remission of the disease, is achieved almost without exception in the early stages of the disease. In the later stages of the disease, as the result of prolonged and systematic treatment under out-patient conditions, and repeated, even numerous, hospitalizations, in some cases it is possible only to prevent progression of the disease and to obtain a slight improvement in the condition of the patients. But even this result in treatment of patients in the late stages of hypertension may be considered positive. In a considerable number of cases, despite the effectuation of all therapeutic and prophylactic measures, patients in the later stages of hypertension show inexorable progression with subsequent death. This fact emphasizes the need for systematic and supportive prophylactic and therapeutic measures in the early stages of hypertension.

Our experience from long-term observations of patients with hypertension permits us to affirm that recovery or remission in

hypertension is the result of systematic prophylactic and therapeutic measures. Contrary to the assertions of certain authors, we believe that spontaneous recovery in hypertension is a rare occurrence.

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