



PATIENT COMPLIANCE IN THE TREATMENT OF ARTERIAL HYPERTENSION

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Introduction: Arterial hypertension (HT) is a major cardiovascular and cerebrovascular risk factor and a condition which is very prevalent throughout the world involving 50% of those over 60 years of age. Despite the fact that there are constantly improving treatments available only one third of patients who are treated have a normalisation of blood pressure (BP). This is a worrying finding since it is proven that achieving normal BP can reduce consequent neurological, cardiac and vascular effects.

One explanation of this lack of efficacy is undoubtedly poor therapeutic compliance with antihypertensive treatment. The sixth report of the Joint National Committee (14), on prevention, detection, evaluation and treatment of HT stated that 68% of the hypertensive population knew they had high BP but only 27% had their BP normalised. The importance of poor compliance is found during studies of treatment resistance. Thus Alderman et al. (1) reported that the prevalence of resistant HT was 2.9% of 1,781 hypertensive individuals after one year of treatment but when one eliminates those who were inobservant then the percentage fell to 0.3%.

Definition of compliance: Compliance can be defined as the degree to which the patient conforms to medical advice about lifestyle and dietary changes as well as to keeping appointments for follow up and taking treatment as prescribed. This can be expressed quantitatively as the percentage of prescribed doses that have been taken. In the treatment of HT a minimum compliance of 80% is generally needed to achieve an adequate reduction in BP (9).

Methods of evaluation of compliance:

The numerous methods of measurement of compliance can be divided into (8):

- pharmacological measures (determination of serum and urinary concentrations of drugs or using biological markers integrated into the tablets)
- clinical measures (clinical judgement of the doctor, evaluation of promptness for appointments or the use of questionnaires or taking the amount of side effects into account)
- physical measures (Verifying prescription renewals, counting the remaining pills or pill counting systems)

Pharmacological methods give percentages of non-compliance which are higher than found by other measures (6). They are generally thought to have a higher sensitivity and specificity (3) but remain difficult to use in standard practice. According, measurement of compliance by questioning the patient or counting remaining pills leads to over-estimation of the number of tablets taken when compared to an electronic pill counting device as confirmed by other authors (9,11).

To date there is no gold standard allowing precise measurement of compliance. However the electronic pill counter or MEMS (Medication Event Monitoring System) may be considered as the best existing system for measurement of compliance (5). This consists of a standard pill box which has a microprocessor which can register the date and hour of the

opening of the container. This allows us to monitor the amount of time between doses of drug and the change in compliance with time. There are however several inconveniences such as cost and correlation between opening of the drug container and compliance.

Factors influencing compliance:

There are four major determining influences on compliance; the patient, the disorder, the treatment and the therapeutic environment. Gallup (7) showed that 11% of patients treated with an antihypertensive stopped their treatment because of undesirable side effects, 25% because they thought that their doctor had asked them to, 46% because they thought they had been cured and 6% for financial reasons.

The patient : Important factors in this context:

- Social characteristics such as age, or social class have little influence on the compliance of the patient
- Psychological (10) characteristics : Hypertension is often considered as a consequence of stress, anxiety or nervousness by the patient. Thus many think that no treatment is necessary apart from sedatives or anxiolytics.
- Furthermore some patients consider that this diagnosis is synonymous with the arrival of old age and thus reject the treatment.

The disorder: Most hypertensive patients have no symptoms. Thus it is difficult to get them to accept treatment or life style changes which prevent cardiac events in the long term. Thus Bittar noted that only one person in two followed their treatment correctly at the end of one year and between 54 and 83% at the end of five years (2).

The treatment: The undesirable effects of treatment are major obstacles to good compliance. The more frequent and handicapping they are, the less motivated the patient. In addition, in HT these side effects occur in patients without clinical manifestations of their condition.

In HT treatment cessation due to undesirable effects of the drugs are evaluated in a number of ways. Several studies show that the level of compliance differs according to the therapeutic class of the antihypertensive (1,12). Second generation angiotensin inhibitors have the best level of compliance followed by converting enzyme inhibitors, calcium blockers, beta blockers and diuretics. Other treatment related factors that may influence the level of patient compliance are cost, form, generic form and the efficacy of the treatment.

The therapeutic environment: The doctor is responsible for the prescription of the antihypertensive. The prescription could influence the compliance by its complexity, the greater the number of tablets or antihypertensive medications to be taken daily the less the compliance.

Eisen et al (5) showed, in a population of 105 hypertensive patients, that compliance went from 83.6% for a single daily dose to 59% for a three times a day dosage. The legibility of

the prescription is also very important since this is generally the only written information given to the patient explaining how he should take the treatment.

Other health care professionals such as pharmacists or nurses have a role to play in compliance as they have special contact with the patient and often the patient confides in them.

Improving Compliance: Among the factors which may modify compliance, some are unavoidable such as the duration of treatment or the absence of clinical signs associated with the HT. However other means of improving compliance could be used such as:

- Detection of at risk patients. This is very difficult to achieve since there are large errors of prediction.
- Optimise and simplify treatment by using as much as possible slow release tablets and fixed combinations and by prescribing the best tolerated treatments.
- Informing patients about HT and their own treatment. A study in 1997 by Bailey et al. (2) on 66 patients, showed that 78% wished to know the effects of irregular treatment compliance and 90% wished to know of side effects. 60% wanted to know about possible drug interactions and 82% the causes of arterial hypertension. It should be noted that many patients do not know the definition of hypertension nor the normal values of blood pressure.
- Educating and involving patients so as to motivate and empower the person in order to make him aware of the necessity for treatment (13). Thus the patient can be asked to measure his own BP. Edmonds et al. (4) studied 37 HT patients who had been treated for three months and who had been taught self measurement. They showed that compliance went from 65% at the beginning of the study to 81% after three months of self measurement and in addition 70% of the patients who were non-compliant at the beginning of the study became so.

Conclusion: There are still many patients treated for HT with very poor control of BP. Despite a greater awareness of the importance of non-compliance, this factor remains important as a cause of poor control of HT and thereby is a cause of many hospital admissions and increased health care expenditure. Thus health care professionals should be more interested in this public health problem and involve themselves in attempts to improve compliance with treatment.

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