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Press release

Blood pressure out of control, too many patients discontinue treatment

**Availability of efficient drugs does not go hand in hand with compliance
with medical instructions**

**Better information must be provided regarding the treatments' benefits,
since a lack of therapeutic compliance leads to a greater incidence of
cardiovascular diseases**

Krakow (Poland), 20 and 21 November 2014 - In general, only one in five patients keeps his blood pressure under control, and the situation is not much different in case of high cholesterol levels and diabetes. These findings are a cause for concern according to **Giuseppe Mancia of the Department of Clinical Medicine at the University of Milan-Bicocca, who co-chairs the international symposium "Current perspectives and future directions in cardiovascular protection"**, to be held in Krakow, Poland, on 20 and 21 November 2014. The symposium is organised by the University of Milan-Bicocca together with the Department of Internal Medicine and Gerontology of the Jagiellonian University of Krakow and the Hypertension and Diabetology Department of the University of Gdansk, Poland, and is sponsored by the Fondazione Internazionale Menarini. Professor Mancia's considerations are based on the Healthcare Data Archive of the Region of Lombardy, a database that provides information about the dispensation of medicines, such as prescription dates and drugs (active ingredients, dosage and number of tablets) prescribed by non-hospital physicians, with a calculation of the pharmacological coverage since the beginning of the treatment. The data were used for an analysis published recently in the Journal of Hypertension (1).

«The Healthcare Data Archive of the Region of Lombardy provides pertinent information about the relationship between the discontinuation of a medical treatment of any kind and the patient's demographic, environmental, clinical and therapeutic characteristics: if a

patient doesn't renew an expired prescription, he clearly doesn't mean to continue the pharmacological treatment. We were able to analyse the data of 493,623 new users of antihypertensive drugs, and there obviously is a dramatic problem in the form of a gap between the protective potential of the therapies and what actually happens in clinical practice» Mancina explains. «Compliance with the medical prescriptions for the treatment of hypertension is extremely low, and the same applies to the treatment of high cholesterol levels and diabetes. Patients don't feel any symptoms of these conditions and are therefore not particularly motivated. Clinical inertia also plays a part: the physician realises that a risk factor is not being controlled in the patient, but nevertheless doesn't change the treatment. These are two aspects that make the control of risk factors extremely unsatisfactory despite the potential of the available therapies. And that's why 36% of 800,000 patients who have started antihypertensive treatment stop after the end of the first prescription. They probably notice that their blood pressure levels went down and therefore think that they have been cured. As a result, when looking at therapeutic compliance based on the renewal of prescriptions, a very close correlation with hospitalisations is observed: patients who don't comply with the medical prescriptions have a much higher risk for cardiovascular diseases.»

Research makes more efficient drugs available, but if patients do not follow the treatment, even the best medicines cannot be effective. «Working on the patient's education and awareness: this is the new frontier for the improvement of cardiovascular prevention» Mancina continues. «To do this, we must know the reasons why patients don't comply with their physician's instructions. This is not possible in a normal study, since the Hawthorne effect (2) causes a patient to change his behaviour as soon as he is enrolled. On the other hand, the analysis of computerised data makes it possible to study the phenomenon. The analysis of the healthcare data of the Region of Lombardy showed that there are numerous factors that influence therapeutic compliance, some of which are easily explained, others less so. For example, elderly patients tend to comply better with the physician's instructions than younger patients. If a patient also takes antidiabetic medicines in addition to the antihypertensive medicines, he is more committed to his treatment, probably because he is aware that the situation should not be underestimated. The same applies if a patient has been hospitalised for a kidney disease or a heart attack. On the other hand, if a patient has been hospitalised in the past for non-cardiovascular illnesses, such as a pulmonary emphysema or a tumour, he is less committed to the antihypertensive treatment, probably because taking blood pressure medication is not his priority in health matters. However, there are some rather odd factors: for example, there is a very close correlation between population density in the area where the patient lives and discontinuation of treatment. In metropolitan areas discontinuation is more frequent than in rural areas, probably because in the latter contact with the physician is easier» Mancina adds.

The examination of data regarding discontinuation of medical prescriptions will also provide useful information about the phenomenon's evolution. «Over the years, we will repeat the analysis of the regional data in order to compare them with today's data. The potential differences will tell us whether we have been successful or not in our efforts to raise people's awareness about the usefulness of following medical prescriptions and not ending treatments that help reduce the risk of cardiovascular diseases» Mancina concludes.

- (1) Mancia G, Zambon A, Soranna D, et al. Factors involved in the discontinuation of antihypertensive drug therapy: an analysis from real life data. J Hypertens, 2014 May 16.
- (2) The Hawthorne effect refers to the whole of the changes to an event or a behaviour that occur due to the presence of an observer. This phenomenon was discovered in 1927 by sociologists Elton Mayo and Fritz J. Roethlisberger during a study regarding the possible correlation between a work environment and the workers' productivity. At the *General Electric* plant in Hawthorne, near Chicago, the two sociologists carried out a series of experiments to quantify production in relation to efficiency. The researchers realised that the factory's typists and workers were more productive not because of the changes made to their working conditions during the study (light levels, duration of breaks and workdays, wages), but because they knew that they were the subject of attention.

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