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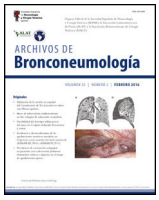

Editorial

Accumulated Dose of Systemic Corticosteroids: Significant Medical Information☆

Dosis acumulada de corticoides sistémicos: una información relevante en medicina

The clinical history, collected personally by the doctor through direct contact with the patient, is the most important and frequently essential instrument for making a correct diagnosis and for indicating the best possible treatment. Data collection should be careful, comprehensive, objective, and as quantified as possible.

Doctors are used to asking their patients about smoking and expressing the data in pack-years or cigarettes/day. We also ask them about their alcohol habit, and translate the number of drinks of varying alcohol content into grams of alcohol/day. We want to know if they are employed in an at-risk profession, and this information is recorded in hours/week of time spent in potentially toxic locations. We measure the height and weight of our patients, and their heart rate or blood pressure, etc. This is, or at least should be, the procedure for all data relevant to the clinical process. However, we are not used to measuring and placing an objective value on some variables that are later found to be indispensable. One of these is the cumulative dose of systemic corticosteroids.

Systemic corticosteroids, in any form (prednisone, prednisolone, methylprednisolone, hydrocortisone, dexamethasone, etc.) are part of the therapeutic arsenal used in different diseases and processes and, in many cases, prescriptions are long-term. Almost all medical specialties use these compounds in a range of patients, and it is useful to remember that since their introduction in medicine,[1] they have contributed to solving a large number of problems. There are virtually no medical practice guidelines that do not include the use of these drugs, especially in critical or life-threatening situations.

A study conducted in the United Kingdom in 1996[2] reported that at least 250,000 people were receiving them on a continuous basis, and it is logical to think that this figure is now much higher. However, a large number of side effects are derived from their continued use,[3] and these effects are clearly associated with the dose and duration of these medications.[4] The therapeutic plan of both doctors and patients is very often directed towards reducing the use of these drugs, and the "corticophobia" of society in general is well known. This attitude is of particular importance in some chronic inflammatory diseases (Crohn disease, rheumatoid arthritis, asthma, etc.), which are now candidates for very effective biological treatments, thus contributing to reducing the dose of systemic corticosteroids. Several authors[5–9] have recently reviewed the impact of this issue in the treatment of asthma, and attention has been drawn to the urgent need to curb the systemic effects of corticosteroid use in these patients. They also emphasize the high economic costs involved, attributable mainly to the control of the many diseases resulting from corticosteroid use (fractures, cataracts, hyperglycemia, opportunistic infections, loss of muscle mass, etc.), which are added to the underlying disease itself. Therefore, it seems obvious that we should always keep a record of these drugs in the clinical history that includes not only the periods of continued use of these drugs, but also the quantity of drugs that have been administered.

The next question should be, what is the best way to express this information? It is common to use the concept of "cumulative dose" when speaking of toxic substances, radiation or drugs, when the effect is associated not only with the intensity of the causative agent at a given time, but also with its accumulation over time. We can define "cumulative dose" as the amount of a drug with a sustained action that is absorbed by the body over a certain period. An example of this is the pack-years index, used to quantify the exposure to tobacco smoke. This concept can be applied to cumulative doses of systemic corticosteroids (CDSC) as a measure of their effect on the body.[10]

We must take into account not only the amount and duration of use, but also the different pharmacological equivalents and whether they are still used at the time that the clinical history is obtained. The most logical approach is to demonstrate that the equivalences between the different products should be translated to "prednisone", since it is the most commonly used drug. After that, the procedure consists of adding the amount of corticosteroids taken (prednisone or equivalent) and reporting it in terms of years, giving a CDSC value in units of mg/year.

There is no measurement without disturbance, but there is no knowledge without measurement. This maxim based on the principle of uncertainty formulated by Werner Heisenberg[11] should always accompany us in our scientific and medical activity. Although this is a small example, we clearly need to incorporate the measurement of the cumulative dose of systemic corticosteroids into our daily work. Determining the effect of one of our most common interventions that has significant unintended consequences will be a good way to benefit our patients.

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