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Link to original article in Spanish

*"*Initiatives such as CODE help to improve the quality of care in cancer treatment."

Dr Enrique Grande, Head of the Medical Oncology Service at MD Anderson Cancer Centre Madrid

As Head of Oncology at a leading cancer centre such as MD Anderson, how do you see the present and future of cancer?

Whether we like it or not, the greater longevity of our population in Spain is leading to an increase in the number of cancer diagnoses. Our country is at the European forefront in terms of treatment and research of this serious disease, but we need to continue working to make further improvements in certain areas. New technologies applied to the field of molecular characterisation of tumours, the design of new therapies and the management of patient pathways are key areas to ensure that patients benefit from the latest advances as soon as possible. And undoubtedly, information and data are extremely helpful to achieve this.

What types of treatments are currently available for cancer patients?

Surgery and radiotherapy continue to be key in the treatment and management of most tumours when diagnosed at an early stage. Treatments given intravenously or orally make more sense when the cancer has already metastasized or after these local treatments to ensure that the disease does not recur. Classical chemotherapy has already been overtaken in many cases in terms of effectiveness and tolerability by therapies aimed at specific molecular alterations or by new immunotherapy treatments. If we are able to analyse the genetic material of the tumour and discover the mutation responsible for its growth, we will have the possibility of treating these patients with drugs that act selectively against the particular mutation. Immunotherapy, on the other hand, acts in a different way and, instead of attacking the tumour directly, it stimulates the body's own defences so that they are capable of recognising the tumour and eliminating it. It would be like administering a kind of cancer vaccine. However, there is a long way to go before immunotherapy can be truly selective.

It is known that a tumour does not behave the same in two genetically identical people. Why is cancer treatment so complicated?

I remember that when I started in the field of Oncology, cancer was spoken of as a single disease. Then we began to talk about different tumours according to the organ in which they originated, then we talked about different cells within each organ of origin... and today we talk about specific genetic alterations regardless of where the tumour comes from. What I am highlighting is that, as we have more knowledge, we become increasingly aware of the enormous heterogeneity that exists in tumours. I have been involved in the treatment of cancer patients for more than 20 years and I have never seen two patients who behave in the same way from a clinical point of view. There are so many factors that make each patient different and unique and that condition their sensitivity to different drugs ... These factors range from those that are merely demographic such as age, other pathologies that the patient has, other drugs that the patient needs, etc., to the degree or volume of disease that the patient has. It is easy to understand that the expected response is not the same if a patient has millimetres sized metastasis or if we talk about a large tumour. Furthermore, within each tumour, if we evaluate the composition of cells and the specific molecular alterations, we can see that there are some areas with a certain profile and other areas within the same tumour that behave differently. All these factors influence the response to drugs and this makes the treatment of each patient with advanced cancer a challenge in daily clinical practice.

Do you think that the availability of more data on how patients are treated at a clinical level is key for a better treatment of certain types of tumours?

Of course I do. The way drugs are approved from a regulatory point of view is based on clinical trials, in which patients with very specific characteristics are recruited. Sometimes it is necessary to have a larger population than the one selected in clinical trials in order to extrapolate the results. I am not referring exclusively to the expected efficacy, but also to the toxicity that I can find in day-to-day patients. It would be very useful to have information systems that are automatically and independently capable of generating these data. This information would be useful both for professionals to understand what to expect from each therapeutic alternative in real practice, and for regulators when evaluating the cost-benefit of these alternatives.

However, there is still some reluctance to share information between professionals and public and private bodies, despite the fact that we already have strict European regulations that protect the rights of patients and professionals. Do you think this perception will change in the coming years?

The general trend is towards a greater openness and transparency with information. In 2019 it is difficult to ignore the importance of sharing data or information. The data from countries, communities, regions or doctors can be applied to any goal we want and will progressively become more accessible and available. Competition is, undoubtedly, an essential engine for improvement and innovation in all sectors, and the medical sector should be no exception.

It seems that, in the near future, there will be many effective cancer treatments, but perhaps at a high cost. What can public and private hospitals do to ensure that patients have access to these new drugs?

The cost of drugs is an issue that should concern us all. As a physician, I want to provide all my patients with the best available treatment and, as a potential patient, I wish to be provided with it as well. Reality requires ways to make the health system sustainable. If all the actors work in the same direction, I am sure that we will be able to reach reasonable agreements in which every patient has access to the right treatment option for them. From the point of view of the healthcare professional, I believe we can contribute to this "negotiation" by defining increasingly better which patient should be provided with these new therapies. To this end, we must continue

our efforts to define patient profiles that are more likely to respond to these therapies. These patient profiles would be based on defining the appropriate clinical groupings and, above all, on the search for molecular alterations to help us select those tumours in which clinical benefit is expected to be greatest.

As a pioneering member of the leading European health oncology big data initiative, the Oncology Data Network (ODN) (www.code-cancer.com), in which leading professionals, managers and researchers across Europe are participating, what are MD Anderson's views on sharing information, as long as all the rights of patients and professionals are guaranteed?

Obviously, the analysis of these data should always be done in an aggregated manner, protecting the personal information of each patient. Moreover, I would say that relying on the specific experience of a particular patient can lead us to misunderstand and make wrong decisions. The biggest advance that the tools of large data analysis give us lies in the fact that we are able to evaluate a great amount of information at the same time and establish relationships among all this information. It is from the joint analysis of the data that we must draw conclusions that will undoubtedly contribute to a much more efficient management of the resources we have. At the same time, it will allow the comparison of parameters of efficacy, safety or others that need to be analysed between different hospitals, countries, regions, etc. Undoubtedly, a good understanding of these data, will allow an improvement in processes that will have an impact on patient care. Undoubtedly, initiatives such as the Collaboration for Oncology Data in Europe (CODE) help to improve the quality of care in cancer treatment and are a great step forward in terms of innovation.

The ODN initiative led by CODE in which you participate as an active member of its Advisory Committee (*Country Advisory Group*) in Spain, has been identified as an "initiative of public interest" by CNIL, which is the body equivalent to the Spanish Data Protection Agency. What benefits does this initiative bring to oncologists, managers and patients?

What it is going to contribute and how far it is going to change the management of the centres that treat cancer patients is still to be clarified, but what is clear is that information technology has already changed our daily lives, for example, who doesn't use Google to search for anything on the Internet, and it is going to change how healthcare is managed in the coming years. We must be serious in the analysis, that is, the medical intervention will continue to be essential - artificial intelligence and big data will not go through the hospital corridors carrying a stethoscope - but it will help health professionals and managers to critically analyse what they and their colleagues from other centres are doing, which will allow measures to be put in place to help raise the level of patient care and, potentially, improve the cost-effectiveness of the system.

What are the most important issues that will help accelerate the growth of an initiative such as CODE in Spain?

The participation of professionals and leading centres of reference such as MD Anderson is a key factor.

The hospitals that are already participating in the CODE initiative are aware of the value of this type of shared European information network, to improving decision-making, the quality of care provided and helping the financial sustainability of the healthcare system. And all of this while ensuring alignment with data protection regulations.

It is also important to highlight the great work of the members participating in the Advisory Committee of each country, which set the trends and requirements for the success of an initiative as innovative and ambitious as CODE.