November 2013

Targeted therapies and patient management

by

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She has recently been appointed President of the Management Committee of the Lyon Auvergne Rhône-Alpes Cancer Research Cluster (CLARA).

"For several years, research, especially due to research works performed in biology laboratories, has obtained better understanding of how a cancer forms and of the anomalies that accumulate in a cell and which result in this formation.
Consequently, we can better conceive how to combat these mechanisms, no longer by using molecules that destroy cells rather randomly – both the bad and the good, unfortunately – but by using so-called targeted therapies that attack the specific anomalies of cancerous cells in particular.

Thus, although the treatments are more efficient, they remain toxic since most of the secondary effects of chemotherapy are due to harmful effects on normal cells.

Therapies targeted at anomalies

What characterizes the disease of cancer in comparison to other diseases is that the enemy is inside. The organism itself produces a cancer that develops from cells that have become cancerous, whereas they were normal originally.
In other words, we are in a difficult situation where the enemy must be attacked by targeting it rather as one would target a terrorist group in the middle of a civilian population.
The enemy to be eliminated is targeted as precisely as possible, but this sometimes leads to what is called collateral damage, reaching unwanted targets: the normal population and in this case normal cells.
Sufficient aggression is required against cancerous cells while providing as much protection as possible to the normal cells that permit preserving the patient's health.

Although this language seems rather warlike when speaking about oncology, it permits illustrating the problem. The targeted therapies developed over the last few years take up the challenge as they allow taking a more flexible and less aggressive approach.

Targeted therapies are drugs.
Very schematically, they can be administered in two ways:

- either by intravenous perfusion,
- or by tablets, a method that also allows diffusing the drug throughout the organism.

It should be noted that a tablet is not a second rate treatment, and that it can be just as efficient as a molecule administered intravenously, though it also just as toxic.

Towards global patient management

While some targeted treatments fall more within the scope of surgery or radiotherapy, it is mostly drug treatments that have led to the growth of personalized medicine over the last few years.
With the administration of drugs in tablet form, we have developed even stronger links with those on the front line for following-up and sometimes renewing these treatments, that's to say general practitioners and structures in cities.

From the standpoint of the clinician, the main visible difference in cancer treatments over the last ten years stems from the fact that **cancer has become a chronic disease**, whereas it was previously an acute disease that was incurable and quickly became serious.
Therefore we observe an increasing number of patients that are not cured of their cancer and who live with it. The conditions in which they will live with their cancer depend on the way we organize their management.
Thanks to the targeted molecules described above, the disease has become chronic. This chronic dimension has probably allowed us to focus more on a **global approach to patient management**.
A patient is not only a type of tumor with an associated molecular anomaly; for us the patient is considered globally. We care for them from the medical and technical angles, but also in the framework of a multidisciplinary and multi-professional team.
We have therefore developed strong links with the city and with urban medical care: due to the disease's chronicity, patients are hospitalized less often and thus stay more often at home. This means that home healthcare structures are very strongly involved in following-up these patients.

What I think is fundamental in the next few years is that we have to develop innovations and their transfer to clinics and the patient as fast as possible, by overcoming regulatory and financial barriers, which are in no way negligible.
Lastly, it is above all necessary to ensure that these advances are not only quickly accessible, but that they are so for everyone, wherever the patient lives, and whatever the type of structure caring for them."