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## Surgical Oncology Myth or Reality

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Darwin said that "the species that survive are not the strongest or the most intelligent, but they are the ones that will be able to adapt".

In addition, in an article of the Lancet, volume 22, issue 2, p182-189, February 01, 2021 titled "Global demand for cancer surgeons: Evaluation of the optimal number of surgeons and anesthesiologists between 2018 and 2040" concerning 143 countries of low, medium and high-income levels, we are provided with predictions that concern us all. The model used in this study estimates that the number of cancer cases requiring surgery will increase by 5 million (52%) from 2018 (9,065,000) to 2040 (13,821,000). The largest relative increase will mainly affect 34 low-income countries, where the level of equipment is the lowest. To balance these figures with high-income countries would require an increase in the number of surgeons by four and anesthetists by 5.5. However, this does not mean that the number of surgeons in high-income countries is and will remain optimal.<sup>1</sup>

In the context of multidisciplinary meetings, surgeons are also faced with "internal competition" with other players in cancer care. The term "oncologist" has gradually drifted into medical oncology. It is true that the gigantic investments provided by the Big Pharms, in order to overcome this global scourge, somehow justify their current preeminence and that no scientific meeting could take place without active support from the industry. But let's take a step back and take the example of breast cancer.

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Halsted published his original article on radical mastectomy in 1907. This intervention underwent many variations in the 20th century. With the development of radiotherapy, the concept of conservative treatment appeared after the Second World War, followed by irradiation.<sup>2</sup> It took several decades and prospective randomized trials, in Europe, as in the USA, to show identical survival between mastectomies and conservative treatments. These results were definitively acquired at the end of the 20th century, thanks to adequate radiotherapy equipment.

Along with the progress in more conservative surgical resections, the concept of adjuvant chemotherapy emerged, with the work of G. Bonnadonna in Italy,<sup>3</sup> and B. Fischer in the USA.<sup>4</sup>

Then came the work of Guiliano, allowing us to limit lymph node dissection and their morbidity to the identification of a single sentinel node,<sup>5</sup> and that of M.C. King identifying the mutations predisposed to the occurrence of breast cancer *BRCA1-2*, then more recently their variants, bringing together constitutional genetics and surgical prevention.<sup>6</sup> Besides, the TNM classification has given way to molecular classification, etc. Oncoplasty, immediate or secondary reconstruction, and lipofilling have more recently changed the management of our patients. Robotic surgery, still limited by financial constraints, is slowly taking its place in our surgical therapeutic arsenal.<sup>7,8</sup>

The purpose of this editorial is not to provide a history, necessarily incomplete, on the techniques and on the men and women who allowed these advances but to recall the place of surgeons in the management of solid tumors and especially the breast. Even today, surgeons are still the ones who most often see patients first, and their questions remain the same:

Doctor! are you going to take my breast out?  
Will I be receiving chemotherapy?



So far, it is still the surgeons who will answer the first question.

For the second, several choices are possible depending on their age and their mode of exercise.

1) Either they operate first, and they discuss the file afterwards with the postoperative results and then see paragraph 2.

2) Or they present the file to the multidisciplinary consultation meeting, which in a "democratic" way, will make the best decision suited to a given patient. But anyone who has attended one of these meetings at least once knows that in a human group, there are always "dominant males", not always males!

Admittedly, the majority of files are seen quickly because they correspond to treatment protocols validated in the institution, at local, regional, national and even international levels. These protocols are developed and updated regularly in consensus conferences and, in fact, are very similar, regardless of the place of treatment. But there is a sizeable proportion of cases that do not fit, and that's when the real battle begins. Each will defend his chapel, his specialty, egos clash with publications, molecular signatures, the panel of genes, etc. Depending on the country, the culture, the final decision is taken on criteria of variable objectivity, which makes the analysis of the results of certain publications from across the Atlantic in particular difficult to understand. Surgeons historically know that solid tumors do not heal until they have been completely removed. The story circulating is that surgeons have complete answers within an hour, at little cost (except in robotic surgery!) where it takes several months at great expense to try to get a more or less complete answer, and that we can, in any case, assess only through a surgical act.

3) The third and probably the best solution would obviously be the one taught to me by one of my old masters in surgery who said, "you have to know the pathology that you are going to take care of as well as the other doctors with whom you are going to be confronted; anatomico-pathologists, radiologists, radiotherapists, etc. Because if you are not as "strong" as them in their specialty, they will ask the surgery indications of you, and then it is you who would be in trouble with your patients. Of course, you will make enemies, but you will be respected by those who will be happy to have a real interlocutor".

In oncology, no one will ask you to do contouring before radiotherapy or to know the dose per m<sup>2</sup> of this or that drug, any more than radiotherapists or medical oncologists need to know the brand of the automatic forceps, nor the size of the thread you are going to use to close the skin. On the other hand, if you do not know the side effects of a chemotherapy protocol, the intraoperative bleeding and the consequences will not

be the same depending on the date you perform an operation on the patient.

In France today, interns preparing for the specialty of oncology must spend a semester in radiotherapy as part of the medical oncology course, but there are no plans to offer them a semester in surgery. This is an anomaly that lasts and does not look set to change in the years to come.

Out of ignorance rather than ill will (we hope!) in the case of a loco-regional alternative, our medical oncologist colleagues always tend to choose methods, which they think are non-invasive through ignorance of technical procedures. In a recent example of metastatic breast cancer to the liver, the metastases were in segments III and IV. The oncologist in charge of this patient proposed a radio frequency, where a focused irradiation type cyberknife. He was surprised to know that these two metastases could be removed by laparoscopy, with reduced hospitalization time and ability to provide precise histology with documented and healthy excisional margins.

To conclude, it is the surgeons who, as Darwin said, will create their future for themselves. By dint of being concerned with technique, some of them have forgotten the pathology and, in a way, the patients. The efforts to be made are not so important to retain or regain the place they deserve in multidisciplinary teams. These efforts will also have the merit of giving back to their care a human dimension that is well worth these efforts. They should not forget that in France, they have not been barbers since 1268, when the brotherhood of Saint Côme was created by Louis XI. They took the same college exams as their fellow medical oncologists until the day they chose the surgical route, and this route, contrary to what some medical oncologists believe, did not atrophy their brains.

There are currently societies for oncological surgery in many countries, and we can only recommend that our colleagues with a predominant oncological activity join these different societies by definition because of the transversality inherent in oncology, and in societies of the pathology of the organ.

#### **CONFLICT OF INTEREST**

The author declares no conflicts of interest.

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