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Surgical perspectives

The art of making decisions in surgical oncology

El arte de tomar decisiones en cirugía oncológica



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The Royal Spanish Academy (*Real Academia Española*) defines “art” as the manifestation of human activity through which reality is interpreted or the imaginary is created through different media, including plastic media, linguistics or sound. In a strict sense, since the term implies personal interpretation, oncological surgery should not be considered an art but a science driven by mathematical evidence that emerges from meta-analyses, randomized studies¹ and expert consensus². This evidence is embodied in international guidelines and applied by multidisciplinary hospital teams. As a result, no individual patient’s treatment is subjectively determined by one single professional; instead, their management is determined by a group of specialists dedicated to the disease in question and based on objective data.

Despite everything, some authors believe that surgical decision-making in general can be affected by time constraints, uncertainty, complexity, and hypothetico-deductive reasoning. They propose the use of artificial intelligence tools for the future improvement of this matter³, specifically based on EHR (Electronic Health Record) data with live transmission. The software used offers follow-up throughout the diagnostic-therapeutic process and allows the medical professionals who are responsible for the patient to work in coordination with others in real time.

However, the pathology affects a person, along with their feelings, expectations, socioeconomic status, culture and family environment. Soukup et al.⁴ suggest that this information is often not integrated into the therapeutic decision-making process. For this and other reasons, a shared decision-making model is being developed, which seeks the participation of the patient in order for him/her to explore and compare

different treatment options, express preferences and moral values, reach a shared decision; afterwards, the patient’s decision is evaluated. Even in this latter scenario, which promotes patient autonomy, it is quite complex to include factors that are fundamental in decision-making, such as bedside evaluation and the intuition of the attending professional. All this makes it impossible to create a perfect algorithm that satisfies both scientific questions on the one hand, while also satisfying issues that are intrinsic to the individual patient on the other.

Despite the undeniable advances made in protocols for the diagnosis and treatment of gastrointestinal cancers, in clinical practice we continue to encounter cancer patients who have doubts regarding their surgical treatment. These questions are closely related to operability and occasionally resectability, which is especially relevant in the context of diseases with low 5-year overall survival rates and aggressive surgical interventions with high morbidity and/or sequelae⁵. Hence, some authors consider that the standard outcome measurements of cancer therapy, such as survival, do not accurately describe the effectiveness of the intervention⁶. Another more “surgical” scenario is that of a patient with resectable disease (according to the preoperative complementary examinations), but in whom a more advanced stage of the disease is confirmed during surgery, leaving doubts about the possibility to carry out R0 or “curative” surgery. Although the study of intraoperative biopsies helps in this context, the application of neoadjuvant therapies, especially localized radiotherapy, frequently makes their interpretation difficult.

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All this adds new variables to the equation, such as the quantity and above all the quality of life that the patient presents, as well as the expected quantity and quality of life after surgery. If we consider the confirmed fact that, in select cases, survival after a surgical treatment is similar to other *a priori* less aggressive treatment alternatives, the expected quality of life should take on greater importance in decision-making⁷. In addition, these are patients in whom resection is not likely to prevent the administration of adjuvant therapies. In contrast, it is well known that non-resection usually generates a negative psychological impact on both the patient and family; it is also considered a failure, as achieving a cure becomes impossible. This and other “external pressures” from administrators and corporate or personal spheres lead some surgeons to opt for a palliative surgical intervention despite the suspected futility. However, and regarding this issue, Sacks et al.⁸ show that in the same clinical scenarios, the perceptions of surgeons about the risks and benefits of treatment vary and are highly predictive of the decision to operate. On the other hand, Morris et al.⁹ observe how greater experience allows surgeons to withstand such pressures, be confident in their assessments of perceived non-utility, and steer patients and their families away from additional procedures that would not provide any benefit. In this context, the use of the PREM (Patient-Reported Experience Measures) and PROM (Patient-Reported Outcome Measures)¹⁰ questionnaires in our surgical patients, whether subjected to resection or not, can help us make correct decisions in similar situations in the future, while being aware that each person is unique, with individual responses and concerns about the disease.

In short, medicine and surgery are sciences with a solid foundation, but the work itself involves great subjectivity. Since we do not have a crystal ball to predict the future quality and quantity of life of a patient when applying one treatment or another, or when conducting or not a specific surgical procedure, decision-making can be considered a sort of art, a good art with the good intentions of the surgeon, aimed at doing good for the patient, especially in the context of patients with tumor disease. Our art is based on scientific knowledge and the application of all the tools at our disposal to choose the right option. These will include technological advances aimed at obtaining a more precise diagnosis and extension study, new techniques that reduce surgical aggressiveness, mortality and morbidity, the application of perioperative care and patient adaptation, the integration of data in modern computer programs, but also the knowledge of the person we are treating, their environment, their expectations as well

as their present and expected quality of life. In a word, humanity.

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