Hepatocelluair cancer and liver transplantation: from the tower of babel towards a uniform language

Until the end of the twentieth century, patients with liver cancer were almost exclusively being taken care of in surgical departments implementing in a minority of patients partial or total liver resections. As up to 95% of liver cancers arise in the context of an underlying liver disease, aggressive treatment (this means liver transplantation) was advocated, as this procedure indeed deals with both conditions, the cancer and the underlying liver disease. Th. E. Starzl, the father of modern transplantation, designed in the late fifties this intervention to cure (both primary and secondary!) liver malignancies. Therefore, expertise about care and treatment of liver cancer remained concentrated for almost half a century in liver transplant centers and in oncologic groups working in close collaboration with liver transplant centers.

This situation profoundly changed since the use in clinical practice of several (targeted) medical treatments in the beginning of the 21st century. Indeed, the introduction of sorafenib was a 'game-changer'. Consequently, hepatocellular cancer moved (too?) rapidly from its "orphan" disease status (i.e., almost no healthcare givers were interested in taking care of this difficult and compromised patient group) to a "desired adoptive" disease status (i.e., "everyone" became interested in taking care of these patients). Indeed, liver cancer patients are nowadays unfortunately referred to various medical specialties, including hepatology, gastroenterology, oncology, internal medicine, interventional radiology, radiotherapy, nuclear medicine, general surgery, HB-surgery and... liver transplantation. This protean referral pattern resulted many times in very diverse, therapeutic algorithms... confusion is on board!

The current issue on "recent innovations in the management of hepatocellular cancer in the setting of liver transplantation", edited by Giovanni Battista Levi Sandri and Quirino Lai, timely addresses for all involved medical professions an up-to-date therapeutic spectrum of hepatocellular cancer. Several experts in the fields of oncology and transplant oncology (a new rapidly developing area in medicine) give concise and clear information looking at all different aspects and problems encountered when dealing with this disease.

This issue is therefore of value for every medical caregiver who manages these patients. A better understanding of both the tumor and the underlying liver diseases—is the best guarantee for further improvement of the care of these patients. When considering whatever treatment is the best to be used (i.e., medical, radiologic or surgical), one should keep in mind that long-term disease-free outcome is the mainstay to judge the value of any liver cancer treatment. In this perspective, carefully selected patients fare without any doubt best with a liver transplant procedure. Experiences gathered in the fields of liver surgery, liver transplantation, interventional radiology, chemotherapy, radiotherapy and oncology have allowed to improve long-term disease-free survival by 50% over the last five decades, reaching nowadays 70% to 80% survival rates. The excellent results of liver transplantation will further improve by sticking to inclusion criteria, taking into account both morphologic and biologic tumor characteristics. Justified extension of the inclusion criteria for transplantation will need, as is nowadays at stake in every field of oncology, to implement the sound oncologic principles of neo-adjuvant and adjuvant therapies. Immunosuppressive handling, eventually combined with chemotherapy, are thereby important but many times forgotten aspects of the therapeutic algorithm. As the incidence of liver cancer is rising worldwide, the scarcity of liver allografts will represent the main limit to offer the curative treatment of liver transplantation to many patients. This lack of post-mortem donor organs should be compensated by the more liberal implementation of living donor liver transplantation as a most valid option in the curative treatment of liver cancer. The Western world should embrace with more enthusiasm the example of the Eastern medical world in the field of transplant oncology.

It may be hoped that clear reviews about the subject, such as those presented in this issue, may trigger the interest of the medical community to further improve the search towards the optimal treatment of patients with liver cancer, and most of all will learn to speak "a common language" when dealing with these patients.

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