Imaging of genitourinary cancers: Progress on all fronts

Imaging has become an essential aspect of several levels of cancer management. To begin with, it fulfils ever more proficiently its classic tasks of early diagnosis of primary tumours, staging, evaluation of treatment efficacy and detection of recurrence. Secondly, and it has been doing this for a long time now, it can be used for intervention methods providing palliative care (draining, embolisation, etc.), to relieve suffering or prolong the life of patients with incurable cancers. For about fifteen years it has also been ‘invading’ the domain of curative treatment, by precisely guiding methods of tumour destruction, methods that are less and less invasive and in which the radiologist plays a prominent role.

The aim of this CME book is to take stock of recent advances in morphological, functional and therapeutic imaging in uro-oncology.

The front lines, however, are not the same in each case, but depend on the particular organ.

Progress has perhaps been most marked in kidney cancer, where histological classification is changing, as E. Compérat and P. Camparo describe, to become morphological and cytogenetic. It is the radiologist’s duty to follow these developments, because we no longer ask him just to detect renal masses, but also to characterise them, and to do so as precisely as possible. In a very informative paper, O. Hélénon et al., recall just how far modern imaging can go in characterising small solid renal masses, and propose a practical classification system which could become the equivalent of Bosniak’s classification system for cystic masses. Finally, the team in Bordeaux review the renal tumour destruction methods that are rapidly developing and now offer a credible alternative to partial nephrectomy.

The situation is considerably different for cancer of the prostate, which has been resisting imaging for such a long time that we still rely on random biopsies to detect it. But its defences are gradually giving way, particularly due to the progress in multiparametric MRI. It is true that the latter still needs to be standardised and refined, but a time can be envisaged when it will provide precise maps of the position of tumour foci and post-therapeutic recurrences, and the chances are that it is going to become increasingly part of our daily practice. The teams in Lille and Lyon give details in this issue of the state of the art regarding multiparametric MRI and dare to ask the sacrilegious question, ‘Will we one day be able to do without random biopsies?’

For urothelial cancers, the best management results from good use of imaging, endoscopy and urinary cytology, respectively, as M. Roupret reminds us. There are still possibilities for improvement, however, particularly in parietal and local staging of tumours of the bladder. C. Roy explains the advances of MRI in this area, as yet inadequately explored.

Finally, this issue ends with two papers on cancers of the external male genital organs. For testicular cancer, a model of the success of modern oncology—with recovery rates of 99% for the early stages and 90% for certain metastatic forms—the battle is almost won. Even if there are still points to be improved (particularly evaluation of the viability of residual lymph node masses after chemotherapy), we are already at the stage of being able to envisage a reduction in monitoring by CT, in order to reduce the irradiation of patients! The situation is completely different for cancer of the penis, for which mutilating treatment remains the only possibility. The most important role of imaging, still poorly known in this area, is to ensure precise local staging so that, whenever possible, the treatment preserves as much as possible.
We hope that this wide-ranging overview will provide all our readers with an accurate idea of the state of the art and permit them to make use of some of these advances in their daily practice.

In the meantime we must wait for the front lines to move forward again...