Recently, rather suddenly, everything seems to be changing in the management of men who suffer from prostate cancer. The diagnostic utility of PSA has long been a source of controversy, mainly because of the excessive false positive rates, which result from the fact that both benign prostatic hyperplasia (BPH) and prostate cancer produce a rise in this serum marker. The results of the PROMIS trial reported at ASCO seem likely to transform the scene, since they confirm that multiparametric MRI, performed in response to an elevated PSA level, reduces the need for, and improves the diagnostic yield of, prostate biopsy. This is accomplished by accurately identifying target areas of cancer for biopsy – which, of course, are not present in BPH.

Up to now, decisions about prostate cancer treatment have been made largely on the basis of the Gleason grade of positive biopsy specimens. Gleason 3+3=6 lesions are often managed by active surveillance; higher Gleason scores usually mandate intervention, either by surgery or radiotherapy. Genomic analyses of biopsy specimens, using either the Prolaris or Oncotype DX tests, now offer the means of refining these important management decisions by quantitating the risks of cancer progression. Although more data are required to confirm their utility, these other tests should allow more confident allocation of patients to either active surveillance or active treatment.

Uncertainty still persists with regard to which active treatment option should be advised in individual cases. Surgical removal of the prostate (radical prostatectomy), usually by laparoscopic means with robotic assistance, provides the most reliable means of cure. However, radiotherapy, by intensity-modulated radiotherapy, CyberKnife or brachytherapy, is also an option. Focal therapy, by high-intensity focused ultrasound or cryotherapy, is still awaiting NICE approval and should still be regarded as experimental.

At present, only 16% or so of patients with prostate cancer have metastases at the time of presentation; however, a much higher proportion will eventually develop secondaries during follow-up. The accurate identification and localisation of metastatic deposits has been greatly facilitated by the use of choline and prostate-specific membrane antigen (PMSA) PET CT scanning. The finding from the STAMPEDE trial that survival of men with metastatic prostate cancer can be prolonged by the use of chemotherapy with docetaxel has been a game-changer. Many patients are now receiving six cycles of chemotherapy soon after metastases are identified. This is, of course, deployed in addition to androgen ablation with an LHRH analogue or, if spinal metastases are present, the recently NICE-approved LHRH antagonist, degarelix (Firmagon).

Almost all men with metastatic disease will eventually progress to hormone-relapsed prostate cancer (HRPC), resulting in a progressive rise in PSA. For them, two novel androgen-receptor antagonists, enzalutamide (Xtandi) and abiraterone (Zytiga), are now available, together with radium-223 dichloride (Xofigo), all of which have received NICE approval for use.

The prospects for men who develop prostate cancer have recently been transformed by these advances and are now better than ever before. Those wanting to learn more should consider attending a one-day meeting on prostate cancer at the Royal Society of Medicine on 21 October (www.rsm.ac.uk/events/urh02). Do come along and join us.

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