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Introduction: Therapy with curative intent

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Prostate cancer is a disease that is curable when it is still localized to the prostate gland. The rapid developments in early detection as well as surgical- and radio therapeutic modalities have led to an increasing number of patients undergoing curative treatment. Still, there are no scientifically unobjectionable randomized studies that have compared surgery with radiotherapy. Comparisons between these two treatment options are therefore solely based on outcome data from treatment series in which patients have been categorized with respect to commonly recognized risk factors such as T stage, Gleason score and prostate specific antigen (PSA). Guidelines in most countries state that the two treatment modalities have comparable outcomes with regard to cure and therefore the choice of treatment should be in the hands of patient. In the UK, patient recruitment to the ProtecT (Prostate testing for cancer and Treatment) trial was recently completed [1]. This study is expected to provide important information about the three treatment modalities compared: active monitoring, radiotherapy and radical prostatectomy, respectively, in low-risk prostate cancer. Before the results from this trial are obtained, there is an obvious responsibility for treating clinicians to initiate, and participate in, additional prospective randomized trials evaluating the efficacy of different therapeutic interventions in patients with localized prostate cancer.

Adjuvant radiotherapy after radical prostatectomy has shown excellent results in terms of significantly reducing the risk of biochemical progression [2], improving biochemical progression-free survival and local control [3] as well as overall survival [4]. One still unanswered question is whether this type of adjuvant therapy can be replaced by "early salvage" radiation therapy, i.e. at the first sign of PSA relapse. Randomized trials are ongoing on this theme and will hopefully provide clarity on this in the next few years: RAVES (Radiotherapy adjuvant versus early salvage) (NCT00860652), RADICALS (Radiotherapy and androgen deprivation in combination after local surgery) [5] and GETUG-17 (Adjuvant versus salvage radiotherapy) [6].

Another important therapeutic comparison that has to be investigated in curative treatment of patients with localized prostate cancer is radical prostatectomy plus adjuvant radiotherapy versus radical radiotherapy. Prospective randomized trials in this area are expected to start in the near future.

The value of neoadjuvant, concomitant and adjuvant endocrine therapy in conjunction with radiotherapy has been investigated in several randomized trials. The results from these have been updated in a systematic review and meta-analysis [7]. However, one important question still unanswered is whether dose-escalated radiotherapy can be fully offset or exceed the effect of combined hormonal- and radiation therapy. We look forward to the initiative also to such studies in the near future.

Trials evaluating outcome of different surgical procedures such as open radical prostatectomy versus robotic assisted laparoscopic prostatectomy are important. One trial currently ongoing on this theme is the Swedish Prospective LAPPRO trial [8]. This trial aims to compare the two surgical techniques in aspects of short- and long-term functional and oncological outcome, cost effectiveness and quality of life, supplying new knowledge to support future decisions in treatment strategies for prostate cancer.

The rapid development in radiation therapy techniques [9,10] and trials regarding different dose-escalation- and dose-fractionation regimens are ongoing and are expected to shed more light to their place in future curative recommendations in the different prostate cancer risk groups [11].

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