Published in final edited form as:

Future Oncol. 2008 August ; 4(4): 561–568. doi:10.2217/14796694.4.4.561.

Prostate Cancer: Quality of Life, Psychosocial Implications and Treatment Choices

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Abstract

The current review summarizes some of the key psychosocial issues related to prostate cancer both generally and for an older adult population. The review focuses on three main areas: (1) quality of life issues, (2) psychosocial implications and (3) treatment choices. More generally, the article presents information on the general background, screening guidelines, common side effects of treatment, and current psychiatric and psychological management strategies in prostate cancer. The article addresses the clinical approaches as well as the complexities that surface when deciding the treatment for patients with prostate cancer. Clinical and future implications are discussed.

Keywords

prostate cancer; treatment; psychiatric management

Introduction

Prostate cancer is the most common type of cancer in males in the United States, with an estimated 218,000 new cases and 27,000 deaths expected a year in recent years [1]. Approximately 70% of prostate cancer diagnoses occur in men over 65 years old [1]. Prostate cancer is the second leading cause of cancer death in men, only second to lung cancer, and overall, cancer represents the second leading cause of death in men to heart disease. The psychological reactions to a prostate cancer diagnosis in a generally older population of men will depend on available supports, psychiatric history, and other significant life events such as a recent death of a spouse, divorce, entering dating situations as older men, retirement, or previously losing loved ones to cancer.

Screening Guidelines

American Cancer Society guidelines recommend a yearly digital rectal examination (DRE) along with an annual prostate specific antigen (PSA) test for men 50 years of age and older. Men who are at high risk, such as African-Americans or those with a strong family history of prostate cancer, are advised to begin testing starting at age 40. Routine screening PSA tests for younger men that have yielded cancer results, have led to heightened anxiety and confusion as there seems to be little consensus about the benefits vs. complication ratio for treatment in

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younger men. There are currently two large-scale, randomized trials underway in the United States and Great Britain (e.g. Prostate testing for cancer and Treatment; ProtecT) to determine if PSA screening is beneficial, however the results will not be known for many years.

Psychological Reactions to Diagnosis, Treatment Selection, and Treatment

Apart from the general worries of a new cancer diagnosis, there is still controversy about the selection of primary treatments for prostate cancer making the decision about treatment difficult. For early stage cancer, primary treatment options are radical prostatectomy, radiation therapy, and active surveillance, which can lead to differences in specific areas of functioning, such as sexual, urinary or bowel functioning over time [2,³].

Because surgery and radiation treatments seem to be equally effective in treating early stage prostate cancer, controversy exists about selection of primary treatments for prostate cancer. Differences of professional opinion often make it difficult on the patients, creating uncertainty about their upcoming treatment and future prognosis. Active surveillance is often recommended for men over age 70 with significant co-morbid illness, low-grade indolent cancers, and less than ten years life expectancy [e.g. ⁴]. In men who are healthy enough to endure treatment, surgery (prostatectomy) has historically been thought of as the definitive treatment. Urologists typically will perform a “nerve-sparing” procedure that has decreased the rate of complications of impotence and urinary incontinence [5]. But even successful nerve sparing surgery does not guarantee sexual potency. Radiation therapy, either conventional or brachytherapy with seed implants, may yield less incidence of urinary leakage; however, there are more risks of urinary voiding difficulties with radiation treatments and difficulties with bowel function depending on factors of technique and total dose delivered [6]. Intensity-modulated radiation therapy (IMRT) has decreased the incidence of local complications and has increased the ability to control these cancers [7]. For more advanced disease, hormonal manipulations are used to decrease the synthesis of testosterone which promotes prostate cancer cell growth. Today this is most often accomplished with gonadotropin-releasing hormone agonist medications such as leuprolide or goserelin, in conjunction with antiandrogenic agents that reduce production of testosterone in the adrenal glands, such as flutamide or bicalutamide. Chemotherapeutic agents are used for more advanced tumors as palliative measures.

Early treatment decisions are fraught with the sense of having to choose between quality of life and longevity, even though it is unclear what the outcome will be on either side of the balance [8]. Many men entertain multiple second opinions regarding their primary therapy, though this for some men adds to more confusion and distress because of the lack of agreement among practitioners. They often take in information from reasonable and reliable sources and any number of unverified sources on the internet. This amount of information can lead to significant anxiety while trying to make a reasonable treatment decision.

The side effects of the treatments and the medications used for prostate cancer, such as hormonal therapy, steroids, and pain medications, can cause distress as well. The side effects of hormonal therapies can be particularly distressing for otherwise asymptomatic men. These side effects include: hot flashes, osteoporosis, anemia, fatigue, sarcopenia, gynecomastia, loss of libido, erectile dysfunction, risk of diabetes, risk of cardiovascular disease and fatal cardiac events as well as possible emotional distress [9–¹³]. Recently, review articles discussing the side effects of androgen ablation therapy have stated that this treatment also impacts cognitive functioning [9, ¹¹]. These side effect have led to some oncologists to use intermittent hormonal therapy to decrease the morbidity of the therapy [14]. Psychiatrically, anxiety tends to be the most often experienced symptom for men with prostate cancer [15]. Many men may also report irritability or depression, and the leading predictor of depressive symptoms has been found to be a previous history of depression [16].

Though there may be considerable variations between the patients' and urologists' evaluation of performance status, pain, and pain relief [17], awareness and education about these problems as well as continued attempts to resolve them, or to cope better with them, can significantly reduce psychological stress [18].

Major Quality of Life Concerns

Sexuality—Erectile dysfunction, a complication feared by many men diagnosed with prostate cancer, can occur from aging, the cancer itself, surgery, radiation, and hormonal therapy [19]. After treatment men wonder if erectile dysfunction is prolonged, and WHEN or IF they will be able to have sex again. For those men who are particularly bothered by sexual dysfunction, the first step should be a consultation with an urologist who specializes in male sexual dysfunction [20]. Sex therapy with a trained therapist may help a man express the feelings engendered by this dysfunction, and also to help a couple learn alternative ways of sharing sexual intimacy [21].

Another confusing aspect for selecting treatment is the differential impact on erectile function in radical prostatectomy compared to radiation therapy. The data suggests even when the nerves are spared during surgery, the nerves may take at least 18 to 24 months to fully heal [22]. This suggests that erectile dysfunction may be worse right after surgery and then possibly improve up to 2 years past surgery. Unfortunately, a wide variation in rates of erectile dysfunction following prostatectomy have been reported in the literature and range from 29 to 85% [23]. This range is due to the numerous ways sexual function has been assessed [5] and at what time point after surgery the men are assessed [24]. Despite the wide variation in rates of ED, the general conclusion from this literature is that radical prostatectomy has a severe impact on erectile function and the rates of ED are on the higher end of the range stated above. In a recent review, Dubbelman et al. [25] concluded that the ED rate after radical prostatectomy in the general urologic population is 81% [22]. The ED rates following a nerve sparing procedure also vary considerably due to the same reasons stated above; however more studies report a positive association between the number of intact neurovascular bundles and erectile function [22]. The rates of recovery of erections in men who had bilateral nerve-sparing surgery range from 31 to 86% [26,²⁷], while those who had unilateral nerve-sparing surgery report recovery of erections in 13 to 56% of the cases [27,²⁸].

Many patients believe that radiation therapy will have less of a negative impact on erections, and often times may choose radiation therapy over surgery as a way to preserve sexual function. The fact that erectile function is not present immediately after radiation treatment may lead to this belief. However, fibrosis continues to develop up to approximately 3 years past radiation and interferes with the neurovascular bundles and blood vessels adjacent to the prostate necessary for erections [29]. The decline in potency rates can be seen in data presented by Mantz et al [30] These authors noted the potency rates of 96%, 75%, 59% and 53% at 1, 20, 40 and 60 months after external beam radiation therapy. As a result, when you examine the data from 3 to 5 years post treatment the rates of ED are similar between the radiation and surgery groups [29]. Brachytherapy, or seed implants, also impact sexual function. Although there is some data suggesting the brachytherapy may have less of an impact in impotence rates, this data is still relatively limited. Brandeis et al noted that there was no difference at 3 to 17 months follow-up between brachytherapy and surgery [31]. However, reports presented from the CaPSURE database suggest that brachytherapy reported better sexual functioning as compared to surgery or external beam radiation at 3 to 4 years past treatment [32]. It is important to note that the brachytherapy patients still reported a significant decline in sexual function from their baseline scores.

Erectile Rehabilitation: One of the newer concepts in helping treat erectile dysfunction after radical prostatectomy is “Erectile Rehabilitation.” Initial data suggest that following radical prostatectomy men who achieve consistent erections have an increased chance of retaining erectile function when the nerves are fully healed at 18 to 24 months post-surgery [33,34]. The mechanism of action for this result is believed to be consistent oxygenation of the penile tissue. In men following radical prostatectomy where spontaneous and nocturnal erectile function is poor or absent the penile tissue may fail to achieve proper oxygenation. As a result, permanent structural alterations may occur which is followed by the development of venous leak. Although debated, the current concept is that men post-radical prostatectomy should be treated with early postoperative erectile dysfunction therapy (i.e., pills, injections, vacuum device) in whatever form is successful and acceptable to the individual patient [35,36,37].

ED Treatments: The first line treatment for ED is one of the PDE-5 inhibitors, medications such as sildenafil (Viagra), tadalafil (Cialis), or vardenafil (Levitra), though these medications are quite variable in their erectile-enhancing effects in this population. For men post-radical prostatectomy, these medications may not become effective until the nerves heal 18 to 24 months post surgery. If these medications are not helpful, treatments such as penile injections, vacuum devices, or vasodilating tables (?) inserted into the urethra (i.e. Muse) may be effective treatment. If these treatments are not effective or satisfactory to the patient, penile implants are an effective option and most patients report very high satisfaction with this treatment [38]. In some men, hormonal therapy may decrease libido resulting in possible feelings of emasculation. Sometimes this lack of libido obviates the pressure to correct erectile dysfunction. However, this is not always the case. It is possible that men with on hormone therapy may still be interested in intercourse and thus these men may still require treatment for their ED [39].

Psychological and Relationship Implications: Although little, if any, data exists on the association between erectile dysfunction and depression specifically in men with prostate cancer, it is clear from studies conducted in other settings that there is a relationship between these two variables. Shabsigh and colleagues [40] (1998) found that the rate of depression was extremely high in men with ED (56%) and was significantly higher than in men in the control group with benign prostatic hyperplasia (BPH) (21%) [40]. These results are supported by population-based studies that have also reported an association between depression and erectile dysfunction. Two population based studies with sample sizes over 1,700 both reported very similar findings [41,42]. In men who range in age from 40 to 70, these researchers found a significant relationship between the presence of ED and depression (ORs ranging from 1.7 to 1.8).

It is likely that the presence of distress or depression related to erectile dysfunction may lead to relationship problems due to the increased stress on the couple. It is a common assumption that men are the ones who initiate sexual contact within a relationship. When a man experiences ED, he often pulls away from sexual contact and sexual intimacy. Many men report that there is no use starting sexual contact when they cannot “perform” sexually. Men state that engaging in a sexual experience reminds them of their “lack of manliness,” often times increasing their distress or depression over the loss of erections. This process leads to a lack of intimate contact in the relationship, which can lead to conflict and frustration. Preliminary data exists to support these clinical observations; studies have found the couples where the male partner reported ED also reported less intimate contact, and lower scores on togetherness and tenderness within the relationship [43,44]

Urinary Incontinence and Bowel Changes—The fear of urine leaking, of smelling of urine, of bowel accidents and of having to use diapers is humiliating to many men. In fact, urinary incontinence has been rated a more bothersome outcome than ED [45]. Soon after

prostatectomy men may worry “when will the urinary catheter come out and when will I stop leaking?” There are some men who begin to shun social contact. This social withdrawal is often mistaken for a major depression; this situation, however, if disregarded can lead to significant anxiety and depression which may then need to be treated by anxiolytics or antidepressants. Both supportive psychotherapy and cognitive behavioral therapy [46] can assist a man in coping with these changes in lifestyle. Specifically, cognitive behavioral therapy (CBT) is a short-term, present-focused psychotherapy aimed at examining and altering distorted, maladaptive thoughts about oneself and their environment while supportive psychotherapy is a modality with less focus where more open-ended support is provided. In order to help men cope with this symptom it is important to identify the etiologies of incontinence and educate patients and families about this problem, and offer ideas to alleviate or reduce symptoms. Urinary incontinence can be alleviated with pelvic muscle re-education, bladder training, anticholinergic medications, and even artificial sphincter surgery [47].

Coping with Pain—Pain due to bone metastases is often a symptom of advanced prostate cancer. Older men are often reluctant to take pain medications or dosages adequate to alleviate their pain. It is not clear to what degree this relates to a fear of side effects, such as constipation and fatigue, or to a machismo attitude of feeling compelled to endure the pain. Support of the use of pain medications by the medical team as well as vigilant efforts to reduce or manage side effects can facilitate improved quality of life.

Fatigue—Symptoms of fatigue are particularly upsetting to men who have led active and independent lives. They usually result in increased dependence on family or friends, which are further reminders of the contrast with how they were before the cancer. Fatigue and lack of motivation can be caused by the illness, hormonal therapy, pain medication, steroids, chemotherapy and other factors. Counseling or psychotherapy can help the patient to reorganize his schedule and set realistic goals that may result in less distress. In some cases, a psychostimulant, such as methylphenidate (Ritalin) titrated from 5 mg per day in two divided doses early in the day, or modafinil (Provigil) titrated from 50–100 mg daily, may decrease fatigue, increase motivation, enhance appetite, elevate a patient’s mood and counter the sedating effects of opioids. If a depression is present, activating antidepressants such as fluoxetine (Prozac) or bupropion (Wellbutrin) can be used. Although seeming contradictory, exercise has also been proven effective for treatment fatigue in cancer patients. This research has not been conducted specifically in men with prostate cancer, however it would seem reasonable for a patient to try this approach. Hot Flashes:

In men, hot flashes are caused by many of the hormonal therapies, including orchiectomy [48]. Symptoms include: diaphoresis, feelings of intense heat, and chills, similar to symptoms that women have during menopause. At times, hormonal therapy must be stopped because of the drenching sweats and discomfort caused by hot flashes, especially when sleep is disturbed. This has led to a strategy of intermittent hormonal use to decrease the side effect burden. There have been anecdotal reports and small trials that suggest antidepressants, particularly the serotonin reuptake inhibitors (SSRI’s), such as sertraline (Zoloft), and paroxetine (Paxil), or the serotonin-norepinephrine reuptake inhibitor (SNRI), such as venlafaxine (Effexor) to reduce the frequency and intensity of hot flashes [e.g. ^{49, 50}]. Megace, a synthetic, antineoplastic and progestational drug, has also been found to be helpful [51]. It is not clear whether they relieve the distress of having the hot flash symptoms or work in some way to alleviate the flashes themselves. Changes in habits that stimulate onset of the hot flashes, such as decreasing caffeine, alcohol, and hot fluid intake may be useful.

Anxiety and PSA Hypervigilance—After treatment for prostate cancer or after a recurrence, many men become hypervigilant about their PSA tests, equating any change in their PSA test with “being a dead man.” This PSA anxiety [52,^{53, 54}] can lead to panic symptoms

and insomnia, and may be relieved with education, support and anxiolytic medications if needed. Estimates of anxiety in men with prostate cancer have hovered around 33% [54], while depression has been estimated between 12 and 15%. Education about PSA levels as well as acknowledging some of the fears of what a rising PSA might mean, while recognizing how constant worry about the future negates the whole reason these men fear losing their lives, can help reduce this worry.

Psychological and Psychiatric Management

Men with prostate cancer respond to education and various kinds of brief psychotherapy, including supportive, cognitive-behavioral, and insight-oriented therapies. Unfortunately, some men are reluctant to participate in therapy, particularly if they hadn't in the past [55]. Often men are more amenable to psychotherapy if the spouse or partner is present. This is often a good opportunity to work on issues that have become problems for the couple as well as the individual patient (e.g. [56]). There are also support groups available specifically for men with prostate cancer. National support groups available to men include "Us Too", "Man to Man" and "Malecare".

At a time when a couple's communication needs to be at its best, it is often at its worst because of the stress of the situation. Some men tend to be uncomfortable sharing emotions. They often have a need to be seen as the protector and provider for the family, however incompatible this is with the reality of their physical deterioration. It has been noted that spouses suffer significant distress coping with their husbands' prostate cancer [57,58]. Family members are often concerned when they see the suffering and pain in their loved one; yet often feel powerless to change the course of events. Couple's counseling can improve the ability of a couple to cope with the cancer together. Sexual and relationship issues are particularly bothersome for men who are single, divorced or widowed when they wonder if, how or when they should bring up the issue of their cancer or sexual difficulties on a date. Some men avoid dating altogether. Psychotherapy to address these issues and perhaps to rehearse different scenarios may help alleviate some of the fears these men have.

When psychiatric symptoms of depression and anxiety are severe, psychotropic medications can be effective and should be used with the general rule for geriatric patients: start low doses and titrate slowly. The SSRI's are safe and well-tolerated and can alleviate depressive symptoms possibly resulting from hormonal therapy. Benzodiazepines and atypical neuroleptics are useful in treating symptoms of anxiety caused either by hormonal agents, or corticosteroid regimens.

Conclusion

Prostate cancer is affecting a larger proportion of our male population as detection methods are improving. The illness and treatments affect patients' quality of life in multiple spheres. Issues such as sexual dysfunction, urinary incontinence, bowel changes, fatigue, pain, hot flashes, body image changes, and forced lifestyle changes lead to psychological distress. The PSA tumor marker that is used to follow treatment outcomes can be a significant source of anxiety.

Assessment of these problems is not easy, particularly in distinguishing between physical and psychological etiologies of distress. Discomfort and beliefs about stigma on the part of the patient, the family, and the health care provider in discussing these issues provide formidable barriers to evaluation and resolution of distress. Psychological and psychiatric interventions provide avenues for decreased stress and improved quality of living. Avoidance of these issues leads to increased suffering, significant psychological distress and feelings of despair, isolation, hopelessness, and passive thoughts of wanting to die.

Medical caregivers should have a low threshold for identification of these problems as well as referral to mental health practitioners. Once assessed, management of these areas would include a spectrum of psychologic and psychiatric interventions: education, support, individual and group psychotherapy, couples therapy, sex therapy, behavioral interventions, and psychotropic medications. These referrals may be facilitated by increased knowledge on the part of the patient, the oncology team and the mental health practitioner about the illness and treatment-specific stressors.

Future Perspective

As with all cancer, the treatments will continue to evolve and hopefully improve the long term outcomes for the patients. However, many of the advances in treatments will focus on improving quality-of-life concerns as well as improving survival rates. Many of the advances in treatments will not necessarily improve disease outcomes but will be implemented primarily to reduce the side effects of treatments, and institutions will push to “sell” these treatments based on the reduction of side effects. Examples of this include robotic surgery (which may or may not reduce side effects), more focused radiation therapy, and intermittent hormone therapy for late stage prostate cancer patients. We also believe the state-of-the-art treatment will provide more specialized services to help patients with the psychiatric issues and side effects of treatment for prostate cancer. These may include more mental health staff to help patients with the distress of the cancer diagnosis, and the fatigue and hot flashes associated with hormone therapy as well as specialists to help patients treat urinary incontinence, and erectile dysfunction.

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