The experiences of men receiving androgen deprivation treatment for prostate cancer: a qualitative study

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Objective: *This exploratory study was intended to investigate men's ways of integrating and understanding experiences with Androgen Deprivation Therapy (ADT), including how hormone treatment affected their sense of identity.*

Patients and methods: *Twelve men, averaging 61 years of age and treated with ADT, participated in a single interview about their experiences with prostate cancer and hormone treatment. In keeping with a qualitative approach, questions were initially open-ended, with patients encouraged to describe experiences in their own words.*

Results: *Seven prominent themes appeared in the interviews: 1) starting on hormones, 2) matching expectations with reality, 3) tracking changes, 4) dealing with changes in sexuality, 5) navigating relationships, 6) putting things in context, and 7) interpreting gender-relevant changes.*

Conclusion: *The effects of ADT on men with prostate cancer were varied and often substantial in their impact. Additionally, men often receive insufficient information to prepare them to deal with side effects. While the physiological situation of the men in our study could be described as "liminal" (i.e., straddled between two categories of gender), interview data showed that they refuse their liminality, claiming to be neither less masculine nor more feminine because of treatment. While men are grateful to receive potentially life-extending treatment, the challenge for the health care system is to provide them with the information and clinical support that will make their remaining years the best that they can be.*

Key Words: prostate cancer, androgen deprivation therapy, quality of life, side effects, qualitative methods

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Introduction

Androgen deprivation therapy (ADT) is the treatment of choice for men with prostate cancer when first-line therapy, such as surgery or radiation, fails. In recent years ADT has also been increasingly used with men with locally advanced, node-positive, or biochemically recurrent disease (not just men with distant metastases). Most patients in this group enjoy a relatively long life expectancy, making men's experiences with ADT important to understand.

Anti-androgen hormone therapy has been associated with physical and psychological effects, including: breast development, hot flashes, nipple sensitivity, redistribution of fat, decrease in muscle mass, hair changes, weight gain, decreased interest in sex, compromised capacity for erections, diminishing of testicular volume, loss of energy, mood swings and increased likelihood of depression.[1] Possible metabolic changes include loss of bone mineral density, changes in the lipid profile, and anemia.[1]

While the profile of men's side effects from ADT has been more fully developed over the past decade through numerous studies where men complete symptom checklists,[2-9] there has yet to be much investigation into how men experience treatment and its effects. Symptoms provide some information about the burden of treatment. But for a fuller understanding, it is important to consider the context of men's lives and their typical (and varying) ways of integrating and understanding ADT. What does it mean to men to engage with hormone treatment? Such an exploratory investigation calls for qualitative research methods.[10]

A central feature of a number of the effects of ADT is that they push men (physiologically and psychologically) in the direction of women. Suddenly, thanks to hormone treatment, a man may be dealing with hot flashes, loss of body hair, rounding of the hips, growth of breasts and increased emotionality – all characteristics usually associated with being female. Such symptoms have at least the potential of interacting with men's socially constructed ideas about masculinity, challenging their sense of being a man.[11] Part of what led to the present study, then, was a concern with men's interpretation, adaptation and acceptance of change as it relates to their overall sense of identity.

Patients and methods

Men interviewed for this study were referred by urologists in the Toronto area or responded to a notice posted by the local Man to Man prostate cancer support group. Eligibility criteria included that men have a minimum of 6 months experience with hormone treatment, following first line treatment; that there be no evidence of metastatic disease, and that they not be receiving treatment for another life-threatening disease. Because of challenges in recruiting men, all eligible participants willing to participate were included in the study until an adequate sample size had been obtained. Fifteen men were contacted about the study and all expressed interest in being interviewed. A total of 12 men were eventually interviewed, with two unable to participate because of new health crises and another because of an extended trip.

The average age of men participating in the study was 61 years (range 50-73). All the participants completed high school, with seven reporting some college or university training. Seven men were employed full time, three employed part time, and two were retired. Ten of the men were married or living with a partner; two were single. With the exception of an African-Canadian man, all of the participants were white. All but one of the men in the sample was receiving hormone therapy (Suprefact Depot and/or Lupron, with or without Casodex) at the time of the interview. One man had recently stopped treatment as part of an intermittent schedule of administration.

A female member of the research team (AB) conducted a single interview with each of the study participants, lasting between 45 and 90 minutes. Interviews were most often conducted at the offices of the research team, but several were conducted in men's homes. Interviews were audiotaped and transcribed verbatim. They began with broad, open-ended questions, inviting men to describe their experiences with prostate cancer and hormone treatment in their own words. Probes were used to clarify and encourage additional detail.

Members of the research team first met to discuss impressions of early interview transcripts. Then, working from this information, an initial coding schema was produced by three team members. Subsequently, two members each independently coded several transcripts to assess the usefulness of the schema. Further refinements and modifications were made to the thematic schema (arising from on ongoing discussion), as new data emerged from transcripts.

To ensure rigor, a record was kept throughout of the conceptual pathways through which the analysis proceeded. The computer software "Nvivo" was used to assist with data management for this study.[12]

Results

Study results are organized under seven headings, reflecting the prominent themes appearing in the interviews: starting on hormones, matching expectations with reality, tracking changes, dealing with changes in sexuality, navigating relationships, putting things in context, and interpreting gender-relevant changes. Participants quotes are followed by identifying study numbers (A1, A2 …).

Starting on hormones

There was a wide range reported by the men in this study regarding the amount of information they received about hormone treatment prior to commencing. A couple claimed to have received little or no information from doctors or nurses. More typically, men remembered being given a list (ranging from short to more comprehensive) of possible side effects. "The nurse explained to me that I would lose my sex drive and possibly get hot flashes. That I might be fatigued to some degree … I'm actually not sure if I found about that then or later. I think that's about it." (A6) Some men supplemented information provided by health professionals by exploring the Internet or reading books. And many heard from other men with prostate cancer, either through organized support groups or friendship networks. "Since I got the prostate cancer, guys who have been diagnosed have come out of the woodwork all around me. They told me I'd have less energy." (A8)

Most of the men in this study did not see hormone treatment to be a choice requiring a decision. Physicians typically communicated that the treatment was a medical necessity, and that it required immediate implementation. "It wasn't a decision of mine, as opposed to the doctor saying, 'this is the treatment, we've got to start right now'. So it wasn't as if I put my hand up and said, 'put me on hormones'." (A7)

While some of the men accepted this course matter-of-factly, others were disconcerted that they had no opportunity to weigh evidence and reflect on their options. "It happened so fast. I didn't really have time to go research it." (A6) Men were especially distressed if the speed of starting treatment was not accompanied by sufficient information. "He more or less said 'this is what we're going to do', and I wasn't terribly happy. I wasn't getting information and I wasn't being involved in any way in the treatment." (A10) Other men felt more involved in the decision. None of the men, even those who felt rushed or unhappy about how treatment was introduced, argued that they would have decided to decline treatment. The men did not see any other course of action as reasonable.

Matching expectations with reality

Most of the men in this study were negatively surprised in one way or another by the impact of starting hormone treatment, although one man had far fewer side effects than he had anticipated. Some men had not been alerted to possible side effects, so did not have a context for understanding what was happening to them. " I didn't expect the fatigue. There were days I couldn't get up." (A10)

Even if men had been told they might experience a particular side effect, they could still be startled by their experience of the effect. "The weight gain is something that has really bothered me. I didn't think it would be as great as it was." (A1) For some of the side effects, men had no prior experience by which to assess in advance the likely impact. "To take a middle-aged man and say, 'oh, you're going to have hot flashes'. Well, what does that mean? It's not something that men talk over the way that, say, pre-menopausal women might." (A12) While such surprises could be difficult to handle, there were mixed opinions about the helpfulness of more information. Some men felt that there was really no way to prepare for changes without going through them. "You can try to prepare yourself mentally that you're not going to have a sex drive, that you're not going to care, so logically you can do that. Emotionally it's … difficult." (A7) But other men felt strongly that they could have been better prepared had they been given the full story.

Men also wondered if information could be provided in advance about what to do about possible side effects. "They have to prepare people more for it, maybe have suggestions … like watch your diet more carefully, or exercise more or differently." (A10)

Tracking changes

In the interview situation, men were first given the opportunity to give their own summary of changes after starting hormone treatment. Later, specific questions derived from previous research were asked about other possible changes. The changes described spontaneously by the men were those that had substantive bodily impact–most notably hot flashes, fatigue, and increased body weight, and for some, loss of bodily hair and breast enlargement. Just three of the men spontaneously mentioned an emotional impact–one feeling more "placid", one more irritable, and one depressed.

When asked specific questions about changes, men often responded with interest about possible additional effects. There were a number of responses beginning with reflections such as "that's an interesting question" or "oh, I hadn't thought about that". Many men elaborated further on the major effects they had already spontaneously described. But they often acknowledged additional bodily effects not previously mentioned, including those less dramatic or visible, such as osteoporosis and sleep disorder.

It was only with prompting that several men revealed more substantive emotional impact of their treatment. "It doesn't take much and I start to cry. I mean, it can be stupid … watching some silly program on television, all of a sudden tears are running down … which is not the way I was before." (A10) Men who revealed these changes were clearly disconcerted about such public displays. "It bothers me. I have a 17-year-old son, you know, and it's tough on him to see me start crying … if we get into a tender subject, I have to be careful or I can have a few tears." (A5) But interestingly, the majority of men denied experiencing more emotionality. While this may be accurate, at least some men may have disallowed acknowledgement of changed emotionality due to social pressures.

Several men discussed the possibility that they were more laid back since starting on hormone treatment. "I mean, a lot of my life has been fairly competitive … I don't feel quite that way any more." (A11) Examples of this shift were provided from the work setting. "I'm not as aggressive as perhaps I was before. Like we work with three salesmen and sometimes a call will come through and I'll let one of the other guys take it rather than run and grab it." (A1) But with such a change, as with other psychological changes, men were often unsure if hormone treatment was the cause. Men sometimes did not think to consider the possibility that new experiences might be attributed to hormone treatment. "The fact that it may be hormones doesn't come into one's mind … even though so much of us is made of chemicals we really don't think about it. We just think, 'this is who I am'." (A7)

Dealing with changes in sexuality

Men interviewed for this study understood that hormone treatment would compromise their sexual functioning and libido. Many had already experienced erectile dysfunction as a result of first-line treatment; some had already given up on sexual intercourse as an option while others had kept active with the use of aids. The impact of loss of erectile functioning, whether due to earlier treatment or the hormone treatment, was major for most of the men in this study. "I can't have sex, what can I do? Shoot myself? No. But I wish I could go back." (A3) Several of the men commented that their sexual limitations were made easier by circumstances in their life. One man had no partner and thus felt fortunate to not suffer the loss of sex in an intimate relationship. Another man's spouse had lost interest in sex after menopause and he thought that his difficulties reduced tension between them.

Loss of libido or sexual drive was typical for the men interviewed for this study, although many retained some limited interest in sex. "The mind is still there but the flesh is weak. Yes, I still want to do it." (A1) Often the quality of this interest seemed to carry a more detached quality than is usually associated with sexual desire. "I went to see Chicago [the movie] and it's just loaded with dance and skimpy costumes and everything else. And I thought to myself that Catherine Zeta-Jones looks really, really good. But it's not quite the same. I mean, it's more of an intellectual exercise than it was." (A8)

The diminishment or total loss of libido seemed difficult for men, although, ironically, it carried the potential to make their sexual difficulties more bearable. "There is no physical ability for an erection, but also the sex drive itself is gone, which is pretty handy, because one, you can't, and two, you don't care if you do anyway. Life is a bit easier that way." (A7) But even this easing of burden was not straightforward, as men could feel it as unnatural. "It makes it easier in one way, but it is also sad, because I know what I've lost. And yet I don't even feel particularly emotionally upset about having lost it. … It should bother me somehow. What bothers me more is the impact it has on my wife. I don't feel it but she feels it. That bothers me." (A8)

Despite loss of interest in sex, some men found ways to stay at least somewhat active. "It's like exercise for me now… I actually have to say, 'Ok, I'm going to do this now.' (A8)

A few men admitted that life without much sex drive brought interesting shifts. "I was thinking about it the other day, and was sort of laughing to myself, because there's a certain sense in which it's a bit of a relief." (A11) One man, comparing his current sex drive with former times, came to reflect on tensions between men and women in relationship. "Early in my marriage, if I thought I was doing all the initiating with sexual encounters, then my thought was, well, I'm not going to do this next time. She's going to have to ask for it. And then I'd come back begging in a week or so. Until the hormone treatment I didn't realize what a silly ploy that is for any man, because women haven't got all this testosterone going." (A7)

Navigating relationships

Most of the men in this study had disclosed their prostate cancer diagnosis to family, friends and co-workers, although often with ambivalence. "I decided that without being a nuisance about it, I was going to tell people." But as the course of illness and treatment progressed, men typically communicated less about their experiences to people beyond the immediate family. "The only thing I mention at work is the obvious, that I've gained all this weight and I'm trying to lose it. I don't make a point of telling them about all the other things." (A10) Exceptions were made for other men with prostate cancer who might be looking for information. And some men reported a more general sense of openness in their relationships, stemming from their illness experience. "I've probably been more open with some men …. about who I am and telling them about the cancer and stuff, laying it on the table." (A6)

Men expressed concern about not burdening others unnecessarily; they assumed that most people don't want to know too much. They also sensed that it might be difficult for other people to easily understand their medical situation, and they wanted to avoid lengthy explanations.

Men spoke about the pleasure of being able to sustain past ways of relating to others, without having things always colored by illness. "I still go fishing in the summer with my sons. We still go skating. And I play with the grandkids." (A8) The reality of illness, and hormone treatment receded for short or long periods of time, making it sometimes difficult to come back to conversations focusing on it. "I've had a number of instances of people coming up to me and saying, 'How are you?', in this very concerned sort of way. And I'm saying, 'I'm fine, I'm fine.' And wondering what's going on. And it takes a few seconds to click in and then I remember about my condition." (A12)

Some of the men noticed that their relationships with women friends changed as a result of hormone treatment and reduction in libido. "I'm connecting with women now on a purely human-to-human level rather than any vestiges of flirting."(A12) A few of the men found they could relate to women in an expanded way because of shared experiences with hormone changes. "It's much easier to talk to women and say, 'I know your pain' … because how many guys have experiences hot flashes, or have concerns about the development of their breasts." (A7)

Men typically described partners as being supportive and understanding. Most of those we interviewed worried about the impact of lost or compromised sexual activity on their partner, although only a couple reported that a spouse had actually voiced discontent. The men, while reassured by support, seemed uncertain about what their partner might really be going through. One man was shocked when a woman at the prostate cancer support group expressed that "it [loss of sex] does affect them as well." (A1) While he had worried about the possibility that his spouse could be dissatisfied, it was still hard to absorb a public statement that reinforced that possibility.

Putting things in context

Men interviewed for this study were clear that any problems associated with being on hormone treatment were outweighed by the likelihood of an extended life. "When the recurrence happened I could have refused hormone therapy and gone with a somewhat normal sex life. But I'd have been dead by now … or at least a very sick puppy … it was a decision I never regret." (A8) Many of the men expressed gratitude that they were able to have such a treatment. "I have to thank God-but not just God, but the technology, the entire medical spectrum." (A3) Nevertheless, most of the men acknowledged that the quality of their life was poorer on hormone treatment than it had been before starting.

Many of the men spoke about the possibilities that hormone treatment gave for sustaining their normal lives for as long as possible. Such preservation of normalcy was not straightforward and could always only be partial.[11] As noted above, men valued being well enough to be able to continue their engagement with children and grandchildren. Some commented that they sustained themselves through work, which would have been difficult without treatment. The main point men wanted to make was that they could still do most of the things they used to do, to live their lives in a manner at least reminiscent of their pre-illness situation. "It's brought my life back to as close to normal as possible." (A5) The backdrop for this valuing of normalcy was an acceptance of limited time, and that the status quo is the most that can be hoped for. " If I want to live, I can take hormones. This is a medicine and medicines have all kinds of reactions. But as long as we can work we should be glad, and that nobody has to take care of us. (A13)

Men's reflections on the positive consequences of hormone treatment were, for most, made in the context of a stated shift in life attitude and priorities. "I may not have much time, so let's enjoy the time I have."(A1) While the implementation of such attitudinal shifts were not always articulated, other men gave concrete examples. "My office is about twenty-five feet away from the harbor. So, I'll go and lean over the railing and watch the ducks. It was almost breathtaking yesterday." (A11) But men's positive attitudes were not consistently maintained in the face of ongoing health and relationship challenges. Their valuing of limited time co-existed with intermittent dissatisfaction of current circumstances and dread of the future.

Interpreting gender-relevant changes

Treatment drastically reduces the level of male hormones in men's bodies and increases the level of female hormones. Interviews included a focus on whether men experienced themselves differently in relation to gender, as more feminine/female and/or less masculine/male.

There was little spontaneous discussion of a possible feminizing influence from hormone treatment, other than through humor. "I actually joke about it quite a bit. I tell them that I have a hard time walking past lady's shoe stores, that I want to slip in and buy a pair." (A5) And, as noted earlier, a few men reported conversations with women about shared symptoms. "We talk about our hot flashes, because we'll be sitting chatting and all of a sudden we'll both have a hot flash." (A10) But despite these acknowledgements of shared experience, none of the men in this study reported any substantive shift in their sense of gender identity, towards being more female. "Do I feel more like a woman or that it's changed my identity in any way? No, not at all. (A6) However, some men described how they had already incorporated more "feminine" qualities into their sense of self earlier in their lives, through taking on roles or tasks more traditionally done by women. "I did a great deal of cooking and took on nurturing roles in the past. But I don't see a change from the treatment." (A12) Those who openly acknowledged deliberately fostering feminine qualities in themselves disputed an identity impact from the hormone treatment. "Recognizing feminine aspects in yourself is old hat. I did that long ago. But I certainly don't feel more like a woman than I did before the treatment." (A11)

The very idea of a possible shift in gender identity was obviously disconcerting for some of the men. "You could scare some guys off by starting to talk about getting in touch with their feminine side." (A7) Several commented that they could imagine that other men, perhaps those more rigidly ensconced in a traditional type of masculinity, could struggle with their sense of identity because of changes from hormone treatment. "I would encourage men not to have their identity built too strongly on the manly thing, because with this treatment there will likely be some change in their approach … I would suspect a John Wayne type could have difficulties." (A12)

Men in this study reported that their sense of masculinity was unchanged from hormone treatment, except for those aspects tied closely to sexual performance and, for a couple of men, shifts in social interactions with women. This perception was substantiated for some by reference to ongoing "masculine" activities. "I'm still interested in sports. And I like physical work. In the mornings I clean everybody's sidewalk from here to the corner. And I do this woodworking thing. (A1) But most fundamentally, men argued that being a man, or masculine, could not be so easily undone by a specific medical treatment. "I don't feel any more feminine than I ever did. I feel just as masculine as I ever did. It's a function issue. Its not who I am." (A8)

Discussion

Given sample size and composition, findings from this study may not be relevant for all men receiving ADT for prostate cancer, across individual and group variations. While it is important to acknowledge this limitation, it is also necessary to state that the purpose of qualitative research is never to measure the distribution of attributes within a population, but rather to discover the shape and meaning of experience.[10] Hopefully, this paper helps to illuminate the qualities of men's experience with hormone therapy.

One obvious quality of men's experiences with ADT was their lack of preparation for what to expect, either because they weren't told, or because information received minimized the impact of future treatment. There was also a relative absence of health professional advice about how to deal proactively with possible side effects. Many previous studies have also shown that cancer patients would prefer more information about various aspects of disease and treatment. But the gap between what would be ideal and what is offered seems particularly wide for the men in our study.

While there may be no effective alternative treatment, and thus a sense of "no real choice" about how men should proceed, this does not remove the responsibility for health professionals to engage with patients about the decision, and the likely consequences of making it. At minimum, the men we interviewed would have liked more extensive explanations from their treating physicians, and especially about the impact of hormone treatment for their lives. Additionally, informational pamphlets (or other educational products) about side effects would give the men something to take away to consider, and to refer to as symptoms occurred. Attention could also be given to advising men about activities they could proactively undertake to minimize the impact of treatment on their quality of life. For example, nutritional counseling may be helpful to offset some effects,[13] and exercise programs can serve to improve quality of life, reduce fatigue and enhance muscular fitness.[14]

Men in this study, like those in larger survey studies, reported a range of side effects of ADT. But it is interesting that they often identified additional symptoms when the interviewer probed beyond the men's initial response. Typically men would identify several prominent effects, and did not think to mention others, or only considered their possible relationship to ADT when it was brought to their attention. If men were better informed about possible effects of ADT, they might be in a better position to interpret symptoms as related to treatment and seek help from health professionals when warranted.

Men we interviewed, particularly those who were younger, were greatly impacted by changes in sexuality. It is interesting to note that these changes varied across individuals, with some claiming complete loss of libido and others retaining limited or episodic interest in sex. This seems to speak to the importance of sex in some men's lives, such that they can manage to still generate interest despite hormonal changes that dramatically undermine arousal mechanisms.

The men's descriptions of losing libido are intriguing. Most, while distressed by their situation, seemed to be missing the idea of sex more than the act itself. Indeed, were it not for the social implications of the change–namely losing an important component of intimacy with their spouse–the impression given is that they might even be content with their lot. But the impact on their relationship, and worries about the partner, made things difficult.[11] Interventions that reassure the man about his partner's well-being despite sexual changes may be potentially helpful, as would be interventions that allow for continuation of sexual activity when that is desired by the partner (including novel interventions not commonly offered in urology clinics, such as that reported by Gray and Klotz[15]).

It is also of interest that a couple of men in our study expressed at least partial relief about being released from the grip of libido. For these men, the possibilities for new types of social interactions, without sexual tension, offered unexpected rewards. While it is unlikely that most men would see such changes as a possible benefit of ADT, it has the potential to be exactly that for some individuals.[16]

While there has been increased attention to sexuality issues for men with prostate cancer in recent years, the magnitude of the problem continues to be underestimated, and effective rehabilitation programs are rare. In one recent survey study,[17] only 38% of prostate cancer patients who used at least one medical treatment to help with erectile dysfunction found it at least somewhat helpful. Men on ADT were significantly less likely to find interventions helpful. Failure of such interventions has been shown to be demoralizing for patients.[18] There is a need, then, for better interventions and programs for all men with prostate cancer and their partners, and especially for men on ADT.

This study investigated the implications of ADT for men's gender identity. Given that a number of side effects of treatment pushed the men in the direction of female physiology, would their sense of being a man be compromised or altered? Although this conclusion has been suggested by other recent studies,[11,19] the answer is not entirely straightforward. Most of the men in our study commented in one way or another on particular symptoms that brought them into the orbit of women's experience. They compared hot flashes with spouses. They monitored breast growth; one man exercising diligently to avoid it happening, another joking that his wife hold onto her old bras for him. Most of the men's spontaneous comments were at the level of such specific symptoms, but there was also clearly an awareness of larger gender implications. When a man joked that he now had trouble going by a shoe store without stopping to look he was generalizing from specific changes to an overall stereotype of female behavior. The joke might be understood as a way of dealing with some level of threat about gender identity–moving the man's changing sense of self into the realm of the absurd, where it could be minimized and rendered laughable. This type of use of self-referential humor has been previously noted among patients on ADT.[11]

While there is no evidence that any of the men in our study felt their gender identity to be fundamentally threatened by the side effects they were experiencing, they were certainly aware of the potential for such threat. Several men commented that other men might feel very threatened by changes - men unlike themselves, more ensconced in traditional masculine values and identifications. John Wayne wouldn't have done very well with big breasts and hot flashes. There is a reasonable basis for this way of differentiating among men. Studies of men's health have shown that men most firmly identified with traditional masculine characteristics, such as stoicism, aggressiveness, and competitiveness, are prone to poorer health behaviors and attitudes and are less able to adapt to health crises than are men less strongly identified with those same characteristics.[20] But it may also be true that all (or at least most) men share at least some of the legacy of John Wayne (and other such macho types), and that thus the men in this study were more threatened than they were ready to admit. This would be consistent with what Navon and Morag reported from their qualitative study of Israeli men on ADT.[11,19] But this perspective is admittedly speculative for our sample, and is meant only to provide a critical counter-balance to the common assertion for the men in our study that they in no way felt more masculine or feminine.

The physiological situation of the men in our study could be described as "liminal",[19] in the sense that group members are straddled between the two categories of gender.[21] The psychological implications for people who find themselves in liminal states have been described by Turner and others as negative, characterized by indeterminancy, ambiguity and mirror inversions of normal life. But what is apparent from our data is how men refuse their liminality, and to the greatest degree possible, insist on a specific gender identity despite physiological incongruities. Men with prostate cancer are adamant that they remain men, despite breast growth, hot flashes, increased emotionality and changes in their muscle to fat ratio. Men in this study shared a discomfort with their physical liminality, seeking to escape the liminal state by solidly entrenching (or re-entrenching) themselves in a specific gender identity. These efforts appeared to be relatively successful, despite individual recognitions of areas of incongruence and failure. Where strong gender identification was at least partially achievable, it brought greater peace of mind and a sense of well-being.

The clinical implications of the finding that men on hormone treatment seek to retain a strong masculine identity are uncertain. While on the surface of things, it would seem likely to be helpful if interventions are supportive of masculine identity, but there are real questions as to whether and how such effective interventions might be achieved. Certainly we know that men with prostate cancer tend to be appreciative when their spouses emphasize that they are as manly as ever.[22] But because masculine identity seems so closely tied to sexual functioning for most men, the problems introduced by hormone therapy (and other treatments for prostate cancer), together with the limitations of sexual rehabilitation techniques, make it difficult to adequately support men's desire to remain masculine. Some men may not be easily reassured. A recent case study[16] describes the experience of a man on ADT who accepted for himself an altered gender identity (not male nor female) rather than try to live up to the now impossibility of functioning fully as a man. Interestingly, this patient described some feminizing changes from ADT as positive, such as more intentional emotional experiences with women that were now sexually defused relationships.

While the impact of ADT on men with prostate cancer is considerable, and may be greater than has often been previously suggested, it is important to acknowledge that men in this study (with one possible exception) were committed to the treatment protocol. Overall, they describe their lives as better because of treatment, especially because they assume that their time before death will be extended. The challenge for the health care system is to provide them with the information and clinical support that will make their remaining years the best that they can be. □

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