Prostate Cancer: Do Patients Understand What They Choose?

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Men diagnosed with prostate cancer face an extreme range of available treatment options, from no treatment to major therapy with many side effects. Comorbidities, patient age and health, prostate-specific antigen level, Gleason score, grade and stage are considered the most important factors in determining disease management and choosing the best treatment option. However, in the current health era with patients' growing empowerment and quality of life gaining increasingly attention, more and more concern is given to patients' preferences during the decision-making process regarding treatment alternatives. Prostate cancer provides a good example for similar situations where both clinical features and individual preferences are required to determine the optimal treatment for any particular patient.

Prostate cancer is the most prevalent tumor in Israeli Jewish men and the second leading cause of male cancer mortality. According to the Israel Cancer Association, in 2008, 2999 new cases of invasive prostate cancer were diagnosed and 401 deaths from invasive prostate cancer were reported [1]. In an article published in 2010 that investigated the changes in the age-specific rates of cancer during the years 1973–2002 for the Jewish population in Israel, the most predominant change in the age-specific rates was seen in prostate cancer, with rates almost doubled in older people and nearly quadrupled in the younger population over the course of the study period [2].

The last two decades has seen an increase in the 5 year overall survival rate in Israel; 5 year overall survival among patients diagnosed with prostate cancer in Israel during the years 2000–2004 was 92.0% compared to 83.6% and 70.0% during 1995–1999 and 1990–1994 respectively [1]. This increase in the number of prostate cancer survivors combined with the fact that all treatments carry significant risk of long-term sequelae – including urinary, bowel and sexual dysfunction that affects patients' quality of life – mandate that urologists and health care providers be aware of the outcomes of their consulting. Furthermore, health care professionals need to provide patients with reliable information on the efficacy of alternative treatments regarding their cancer stage and grade, and on adverse events related to their treatment options, especially those related to their quality of life.

However, men with prostate cancer often base treatment decisions on scientific misconceptions and anecdotal experiences of friends or family [3,4]. Prior studies have indicated that patients have poor knowledge and unrealistic expectations regarding treatment, and physicians' judgments concerning patient preferences are often inaccurate. A critical review of patient education materials revealed that prostate cancer patients often lack adequate information necessary for making treatment decisions [5]. This partly explains why most patients diagnosed with early prostate cancer prefer to undergo active therapy.

Based on the National Cancer Registry data in Israel, 1 of 8.6 Israeli Jews and 1 of 15 Israeli Arabs are diagnosed with prostate cancer every year [1]. Most of them will prefer to undergo active therapy, such as radical prostatectomy or radiation therapy, rather than active surveillance or watchful waiting, even those with localized prostate cancer. The main reason for this choice, according to the article published in this issue of *IMAJ* [6], is the fact that patients view the surgery as a life-saving procedure. Patients do not distinguish between cancers of different origins – cancer is cancer and it should be taken out. As in other studies, participants in this study report on the critical role played by their urologist in deciding on the treatment option, radical prostatectomy in this case. The study included 22 men diagnosed with localized prostate cancer who underwent surgery in the urology department of HaEmek Medical Center. As stated in the article, the surgery was perceived as a necessary solution, even though all participants in that study were diagnosed with localized prostate cancer and a range of treatment options was available. All study participants suffered from varying degrees of urinary incontinence and erectile dysfunction after surgery, which were perceived by the patients as "a price that has to be paid for saving lives" [6].

Choosing a treatment for localized prostate cancer presents a challenge for patients and physicians. This is mainly

because there is little evidence from randomized controlled trials evaluating the treatment options for local therapy, and the fact that a range of treatment options is available which involves subjective tradeoffs between quality of life and length of life [7,8]. These tradeoffs provide an opportunity to explore the factors that shape patient preferences and treatment decisions, as did Eilat-Tsanani and coauthors in their article [6].

The optimal treatment for prostate cancer depends on both the clinical scenario (patient age and tumor stage and grade) and the patient's preferences, but it is affected predominantly by the patient-urologist relationship and the patient's perception of cancer. Thus, selecting treatment for clinically localized prostate cancer remains an ongoing complex challenge for patients and physicians.

In summary, there is no consensus on the optimal treatment strategy for prostate cancer since the choice of therapy involves tradeoffs between differing harms and benefits that are subject to individual patients' values. It is essential that patients participate actively in the decision-making process and that urologists provide patients with the necessary information and tools to make the best educated decision. Moreover, in order to make optimal and more appropriate decisions, it is expected that the values and preferences of well-informed patients will be taken into consideration, as stated by the authors in their article: "the study portrays the dilemma of living with cancer or living with the outcomes of treatment."

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Capsule

Negligible immunogenicity of terminally differentiated cells derived from induced pluripotent or embryonic stem cells

The advantages of using induced pluripotent stem cells (iPSCs) instead of embryonic stem (ES) cells in regenerative medicine center around circumventing concerns about the ethics of using ES cells and the likelihood of immune rejection of ES cell-derived tissues. However, partial reprogramming and genetic instabilities in iPSCs could elicit immune responses in transplant recipients even when iPSC-derived differentiated cells are transplanted. iPSCs are first differentiated into specific types of cells in vitro for subsequent transplantation. Although model transplantation experiments have been conducted using various iPSC-derived differentiated tissues and immune rejections have not been observed, careful investigation of the immunogenicity of iPSC-derived tissue is becoming increasingly critical, especially as this has not been the focus of most studies done so far. A recent study reported immunogenicity of iPSC but not ES cell-derived teratomas and implicated several causative genes. Nevertheless, some controversy has arisen regarding these findings. Araki et al. examined the immunogenicity of differentiated skin and bone marrow tissues derived from mouse iPSCs. To ensure optimal comparison of iPSCs and ES cells, the authors established 10 integration-free iPSC and 7 ES cell lines using an inbred mouse strain, C57BL/6. They observed no differences in the rate of success of transplantation when skin and bone marrow cells derived from iPSCs were compared with ES cell-derived tissues. Moreover, they observed limited or no immune responses, including T cell infiltration, for tissues derived from either iPSCs or ES cells, and no increase in the expression of the immunogenicity-causing Zg16 and Hormad1 genes in regressing skin and teratoma tissues. Their findings suggest limited immunogenicity of transplanted cells differentiated from iPSCs and ES cells.

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Eitan Israeli

"To be capable of embarrassment is the beginning of moral consciousness. Honor grows from qualms"

John Leonard (1939-2008), American critic