A Novel Patient Case Report to Show the Successful Termination of Untreatable Androgen-independent Prostate Cancer: Treatment with Cabergoline (Dopamine agonist).

ABSTRACT:

Introduction: Testosterone promotes the initial development of androgen-dependent prostate cancer. This is the basis for androgen ablation treatment, which attenuates, but does not terminate, the malignancy. Instead, it leads to prolactin-dependent malignancy, in which patient death generally occurs within 5 years. This report describes the novel treatment of a patient; which terminated androgen-independent prostate cancer.

Results: Patient "XY" was diagnosed with prostate malignancy and metastases. He received hormonal androgen ablation treatment, chemotherapy, and radiation treatment. He developed androgen-independent prostate cancer; with expected death in 2-3 years. He was treated with cabergoline (dopamine agonist) treatment, which decreased the plasma prolactin 88%; by inhibiting the pituitary production of prolactin. The subsequent PET scan (positron emission tomography) revealed the absence of malignancy; and the CTC (circulating tumor cells) decreased from count=5.4 to count=0.

Discussion: The cause of androgen-independent malignancy has been unknown, and an effective chemotherapy did not exist. The activities of normal and malignant prostate cells are regulated primarily by testosterone. When testosterone availability diminishes; prolactin regulation is manifested. This is represented when androgen ablation results in the development of prolactin-dependent malignancy. An effective chemotherapy would be targeted to eliminate the plasma prolactin-manifestation of the androgen-independent malignancy.

Conclusions: This report of a novel chemotherapy for androgen-independent malignancy corroborates our understanding of the implications of prolactin in its development and treatment. There are about 165,000 cases/year with 25,000 deaths/year in the U.S.; and 1.0 million cases/year with 260,000 deaths/year worldwide. Those patients with androgen-independent prostate cancer can now employ this cabergoline treatment to prevent or terminate this deadly type of prostate cancer.

Keywords: Androgen-Independent Malignancy; Advanced Prostate Cancer; Cabergoline Treatment; Case Report
INTRODUCTION

Advanced prostate cancer accounts for about 25,000 deaths/year in the U.S. and 260,000 deaths/year worldwide [1]. Its treatment generally includes hormonal androgen ablation; which leads to androgen-independent malignancy, followed by death generally within 2-5 years. An efficacious treatment does not exist, mainly due to the poor understanding of the factors that are implicated in the development and progression of androgen-independent malignancy. Especially relevant is the issue of the hormonal regulation of normal and malignant prostate acinar epithelial cells. Costello and Franklin [2,3] have provided extensive reviews of these issues.

Testosterone and prolactin regulation of normal and malignant acinar epithelial cells: androgen ablation and the development of prolactin-dependent malignancy

The activities of the normal prostate acinar epithelial cells and their malignant cells are achieved by the dual hormonal regulation of testosterone and prolactin [4]. Generally, testosterone provides the "primary" regulation; and prolactin regulation is manifested when testosterone regulation declines. This relationship exists when testosterone ablation for the treatment of androgen-dependent prostate cancer leads to the development of androgen-independent malignancy; with a life expectancy of up to 5 years.

The cause of androgen-independent malignancy had not been established, which has deterred progress in the development of an effective treatment. This report provides corroborating evidence for our concept [2,3] that androgen-independent prostate cancer is "prolactin-dependent malignancy". Cabergoline (dopamine agonist) has been employed to suppress the pituitary lactotropic production of prolactin in cases of hyperprolactinemia [5,6]. These relationships provided the basis for our initiation of cabergoline treatment to decrease plasma prolactin; and abort untreatable androgen-independent prostate cancer.

This is the first case report to describe an efficacious treatment of a patient that successfully aborted terminal androgen-independent prostate cancer. Notably, there were no consequential adverse side effects of the treatment. Other patients can now employ cabergoline treatment to terminate this deadly cancer.
reveals that the imminent death from androgen-independent metastases had been terminated. These collective results following the initiation of cabergoline treatment corroborate our concept that prolactin manifests the development and progression of androgen-independent prostate cancer. This novel case report presents a successful treatment of a patient that successfully aborted terminal androgen-independent prostate cancer.

ADDITIONAL IMPLICATIONS

The terminal androgen-independent malignancy was not aborted by the treatment with Lu177-PSMA, which is consistent with another report [7]. In contrast, the cabergoline treatment did terminate the malignancy. This suggests that the terminal androgen-independent malignant cells might not express detectable levels of PSMA, or the PSMA is mutated and not detectable.

It is also notable that the post-androgen ablation subsequent development of androgen-independent malignancy was not associated with an increase in PSA; thereby indicating that these malignant cells might not express PSA.

Those relationships are consistent with our understanding that the androgen-dependent cells and the androgen-independent cells are different populations of malignant cells.

Disclosures: Clioquinol (3% Clioquinol Cream) and cabergoline (Dostinex) treatments were in conformity with the FDA policy for the “off label use” of a clinical trial safe drug; and in conformity with the “right to try” policy for the use of the safe drug for the treatment of patients with terminal medical conditions.

Patient “XY” was presented with the manuscript for his input into the content and the publication of the manuscript.

In accordance with HIPAA policy, the authors removed identifiers (including unique patient characteristics) from the data prior to submission and publication of the article; so that a signed privacy authorization is not needed.

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REFERENCES