THE DISEASE LANDSCAPE OF PROSTATE CANCER

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EARLY 1940s

CHICAGO
CASE STUDY 14

An 80 years old, white man was admitted to Hospital on Oct 30, 1940.

For previous 5 months, the patient had pain in the dorsal and lumbar regions of his back.

For two months, he had spent most of his time in bed and was unable to walk without intense pain and fatigue.

Additionally, he presented with a loss of 17 Kg. (37 lbs.) in weight.

“On examination it was found that the patient could not change his position from lying to sitting in bed without agony accompanied by distention of the veins of his neck.”

“The prostate was slightly enlarged (2 -[-] and there was a hard nodule (1 cm. in diameter) in the apex of the gland about the membranous urethra.”

“Roentgenograms showed diffuse osteolytic lesions in the pelvis with partial collapse of the body of the sixth dorsal and the second lumbar vertebra.”

“His weight was 62 Kg.” (136 lbs.)

CASE STUDY 14

“The only treatment was orchidectomy, performed on Nov. 12, 1940. “

Result 1: Improvement in the mobility of the patient

“Within five days thereafter he was able to raise himself promptly from the lying to the sitting posture.”

Result 2: Change in the feel of the prostate itself:

“On November 26 the prostate gland was soft and just palpable.”

Result 3:

“On April 21, 1941 the patient considered himself well; he had little pain in the lumbar region, and he had just spaded a garden 40 by 50 feet (12.2 by 15.2 meters) without trouble”

Result 4: Improvement in cachexia

“his weight was 74 Kg.” (163 lbs)
Upon activation by androgen (A) binding
Androgen receptor (AR) is released by chaperones, e.g., heat shock proteins (HSPs), facilitating:
- AR homodimerization
- Rapid nuclear translocation
- Post-translational modification
- Receptor stabilization
Activated AR dimers bind to DNA at androgen response elements (AREs), recruiting a series of coactivators (CoACT) that facilitate formation of active transcription complexes
Gene transcription is initiated
THE DISEASE CONTINUUM IN PROSTATE CANCER AND CURRENT TREATMENTS BY CLASS

1st Line Hormonal Therapy/Castration

2nd line Hormonal Therapies Anti-Androgens

Androgen Biosynthesis inhibitors (ABI) Anti-Androgens Immunotherapy Chemotherapy Radiotherapy

ABI Anti-Androgens Chemotherapy Radiotherapy

Asymptomatic

Symptoms

Non-Metastatic

Metastatic

Castration Sensitive

Castration Resistant

Time →

Death
