



DEPARTMENT OF BIOMEDICAL ENGINEERING

WEBINAR REPORT

“Cellular Growth Factors as Therapeutic Targets for Combination Therapy in Androgen Independent Prostate Cancer”

Held on 11.11.2020

The Department of Biomedical Engineering organized a Webinar to faculty member and students on the topic **“Cellular Growth Factors as Therapeutic Targets for Combination Therapy in Androgen Independent Prostate Cancer” on 11.11.2020**. The webinar started at 10.00am with an introduction from “Ms.Lakshmi Shree - Assistant Professor/BME” and welcome address by “Dr.M.Ravindiran – Professor & Head/BME”. The session was handed over to the speaker after a brief introduction given by “Ms.Sandhiya – Assistant Professor/BME”. Mr.V.Prabhakaran – Assistant Professor/BME is the host and handling “Question & answer” session for the webinar.

Inference from the webinar

- The guest speaker **Dr.A.Sumathy**, Professor, Department of Biomedical Sciences, Sri Ramachandra Institute of Higher Education & Research, have brought lot of insights and research on Prostate Cancer.
- She also discussed about testosterone and dihydrotestosterone (DHT) and its biological activities over the prostate glands.
- She also elaborated the various sub hormones like Prolactin (PRL), Corticotropin-releasing hormone (CRH) and its inhibitors towards prostate cancer.
- She elaborated on Hormonal regulation and androgen synthesis and AR signal.
- She further illustrated the various factors influencing Prostrate Cancer with “Androgen Deprivation Therapy (ADT) including Surgical and chemical castration, Androgen inhibitors, Orchiectomy to lower testosterone levels, LHRH analogs, Maximal androgen blockade, etc.
- She also clearly explained about the Mechanisms of castration resistant prostate cancer (CRPC) development with its contribution factors
- She explained about the current therapeutic targets and combination therapy
- Finally, the webinar ended with Question & Answer session with lot of interaction from the participants.

Prostate cancer

- Prostate cancer (PCa) is the second most commonly diagnosed cancer among men in USA & in India, among the top ten leading cancers
- Second most frequently diagnosed and accounts for about 6.78% of all malignancies, in Delhi
- The incidence rate of PCa is 9-10/100000 population, high compared to countries like Asia, Africa, lower compared to U Europe (ICMR, 2020)

Mechanisms of Castration Resistant Prostate cancer (CRPC) Development

Source: Progress in the mechanism and drug development of CRPC Minzan Zuo et al 2016

Development of Androgen Independent Prostate Cancer

- In AIPC,
 - Cancer cells adapt to proliferate under low hormone conditions
 - Grow with irregular and distinct cellular pathways
 - Promote both AR dependent and independent proliferation
 - AR interact with other signaling pathways causing non-genomic and genomic alterations
 - AR activation is also mediated by other paracrine and autocrine growth factors

Finally, the webinar ended with a formal vote of thanks given by Ms.Santhoshini Arulvallal – Assistant Professor/BME and feedback also received from various participants for quality improvements.

This webinar is also live streamed in AVIT-YouTube Channel

<https://www.youtube.com/watch?v=cJGLzfRvsM>