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Editorial

Cancer Research - Basic Science Vs Clinical Trials

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"Puzzle-Solving game" - Normal Cells to Cancer formation - One of the "Hot topic" in the Scientific World, also major public health problem.

According to World Cancer Research Fund Organization and World Health Organization [1] reports indicate globally in 2018, more than 18 million cancer cases are registered in male and female sexes, 34 common cancer types are in both sexes, 28 cancer types in men, 31 cancer types in women. Annually, almost 10 million peoples die from this "Hit and Run" disease, nearly "half" of people who die are 70 years or older, about 1 in 6 deaths. In developed countries – is common cause of death compared with developing countries? This "Silent Killer" is might arise from "genetic insults", "food habits" "chemical carcinogens" etc.

From COSMIC, the Catalogue of Somatic Mutations in Cancer database [2] – most of the tumors are occurred ~130,000 mutations in ~3000 genes that have been mutated - 319 genes are mainstream, of which 286 were tumor suppressor genes and 33 oncogenes. The reverse function of tumor suppressor genes and stimulation of oncogenes can be "upset" at different stages of tumor nature. Accurate cancer detection is more important – false positives from some of the medical procedures like colonoscopy or mammogram are unfriendly for some of the cancer patients, in advanced stages (III-IV) tumors can develop a conflict to cancer therapy. In depth understanding of normal cell regulations to cancerous formation, is "wide" mystery. Up to date, we are applying high-end techniques like single-molecule sequencing, NGS etc. is too little clear for cancer diagnosis.

With reference from FDA (Food and Drug Administration) USA, 97% of Tumor Clinical Trials (TCT) are failed to get approval due to issues with drug effectiveness or deadliness. The importance of drug-target interaction is very crucial but interesting mechanisms to study widely.

Several cancer drugs are work via off-target effects - to better understand the molecular mechanisms of action of small molecule drugs with lot of side effects. Small molecule drugs work to block cancer progress - mischaracterization of target-specific inhibitors - misidentification of biomarkers - "In Vitro" cell lines results are variable between research laboratories. This is main problem in clinical trials - little chance to get approval from FDA, USA [3,4]. On the other hand, more precise and rigorous protein interactions analysis are informative results are vital for continuing cancer research and improving treatment. And creating novel technologies that accurately analyses even challenging protein interactions.

Scientific community will focus on more – Immunotherapy, Liquid biopsy, side-effects of chemical compounds, connection between microorganisms and cancer, Organoids- the secret weapon. Thus, boosted investment in basic science and clinical research to further advance treatment options would unquestionably fast-track progress against cancer.

References

1. www.wcrf.org / www.who.int.
2. www.cancer.sanger.ac.uk.
3. Wong C, Siah K and Lo A. Corrigendum: Estimation of clinical trial success rates and related parameters. Biostatistics. 2018;20(2):273-286.
4. Lin A, Giuliano C, Palladino A, et.al., Off-target toxicity is a common mechanism of action of cancer drugs undergoing clinical trials. Science Translational Medicine. 2019;11(509):eaaw8412.

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