Heart medicine may have applications in cancer treatment

Beta-blocker used to treat high blood pressure may have anti-cancer properties


Dr. McLeod

TAMPA, FLORIDA, UNITED STATES, October 2, 2020 /EINPresswire.com/ -- New medical research into Propranolol, a beta-blocker used for decades to treat high blood pressure and tachycardia, or fast heart rate, shows promising anti-cancer potential, according to Dr. Howard McLeod, medical director of Tampa's Geriatric Oncology Consortium and a professor at the University of South Florida Taneja College of Pharmacy.

McLeod and a team of researchers from Xiangya Hospital, Central South University in Changsha, China recently published a paper on the potential anti-cancer properties of Propranolol.

The paper, "Propranolol Suppresses the Growth of Colorectal Cancer Through Simultaneously Activating Autologous CD8+ T Cells and Inhibiting Tumor AKT/MAPK Pathway," was published in Clinical Pharmacology & Therapeutics (September 2020).

"The study's aim was to see if Propranolol could suppress tumor progression and enhance the anti-tumor immune response in colon cancer," said McLeod.

Propranolol was first tested on mice and researchers found that the drug can suppress the growth of established colorectal cancer. The clinical study involved human patients with colorectal cancer taking propranolol each day prior to surgical removal.

McLeod said the study revealed several potential effects against colorectal cancer. Propranolol suppressed the cancer by both activating the patient's CD8+ T-cells and by blocking the tumors growth communication pathways.

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> *Dr. Howard McLeod*

"Deeper studies with patients demonstrated that Propranolol had two separate anti-cancer actions, decreasing the 'telephone lines' of the tumor cells and increasing the availability of immune cells in the tumors," he said.

"These findings now form the basis for further clinical trials to see if this medicine can shrink tumors and prolong survival," added senior author Yijing He, MD, PhD, an associate professor at Xiangya Hospital.

McLeod is a world-class researcher in pharmacogenetics, also referred to as Precision Medicine. Pharmacogenetics is a branch of genetics that addresses how our genetic code influences how we respond to drug therapies.

"This is an example of repurposing an existing drug for a new use, in this case against cancer," stated McLeod. The repurposing of Propranolol for colorectal cancer treatment is part of a worldwide effort to discover new applications for existing drugs. The estimated cost of bringing a drug to market is now $2.6 billion and it can take 15 years to complete the process.

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