Researchers at the University of South Florida have developed a method of potentiating localized lung cancer therapy by using a combination of Actinomycin-D and Telmisartan.

Lung cancer is currently the second most common cancer worldwide, and accounts for one in four cancer deaths. Many lung cancer treatment options exist, but none effective enough to eradicate or cure the disease. Hence, a more efficient treatment option is necessary.

Actinomycin-D, an accepted chemotherapy medication, has been utilized as a cancer therapeutic since 1954. However, it is known to cause serious side effects when used as a treatment option including immunosuppression, fatigue, ulcers, and diarrhea. Telmisartan, an antihypertensive drug, is commonly used to treat high blood pressure or related disorders. It has also been shown to inhibit the production of collagen, essentially causing a tumor to become more permeable.

USF researchers have discovered that Telmisartan exhibits synergistic properties when combined with Actinomycin-D for lung cancer stem cell treatment. This novel drug combination allows for Actinomycin-D’s anti-cancer properties to be utilized while also minimizing its harsh side effects. When tested alone, Actinomycin-D treatment inhibited lung cancer cell viability while Telmisartan had little effect on the cells. However, when tested together, the viability of lung cancer cells was significantly reduced at a greater rate than either agent showed independently. This drug combination has the potential to provide a strong treatment option for cancer patients.

ADVANTAGES:
- Lung cancer stem cell viability is significantly reduced
- Side effects from Actinomycin-D are reduced
- A synergistic drug combination

Lewis Lung Carcinoma Cells in Mouse Models Show that Tumor Growth is Significantly Inhibited With Actinomycin-D and Telmisartan Treatment

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