

IIIT-A team identifies common meds for lung cancer patients with covid

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PRAYAGRAJ: A team of researchers from the prestigious Indian Institute of Information Technology-Allahabad (IIIT-A) have zeroed in on some common medicines that may hold promise as multi-target drugs treatment for both Small Cell Lung Cancer (SCLC) and Covid-19 patients.

The research team from Department of Applied Sciences, IIIT-A whose findings have been published in internationally recognised peer-reviewed journals including Journal of Biomolecular Structure and Dynamics are confident that this treatment may also reduce the drug load on SCLC patients affected by Covid-19.

“We have been working on developing a treatment for SCLC patients who are infected with Covid-19. During the Covid-19 pandemic, treatment of the SCLC patients became very challenging as they were more

vulnerable to Covid-19, and in case they were affected by it, they would develop a more severe form of the disease. To avoid this situation, in-house treatments were recommended for the cancer patients,” informed Sintu Kumar Samanta, assistant professor at IIIT-A and principal investigator of this research project.

“Another issue is that symptoms of SCLC match well with those of Covid-19 infection. Hence, the detection of Covid-19 can also get delayed leading to unnecessary complications. Thus, we have tried to investigate if the therapeutics that are currently used in lung cancer treatment can also act against Corona virus SARS-CoV-2. If it is so, the same treatment protocols can be continued even if the SCLC patient had contracted Covid-19 without compromising the cancer care,” he added.

Accordingly, the team tried to find some common medicines that may be explored as multi-target drugs for both

SCLC and Covid-19. From the in-silico analysis using computer simulations, some promising drug candidates were identified like Dacomitinib and Paclitaxel which are currently used in lung cancer treatment. These showed a very good binding affinity towards the RNA-dependent RNA polymerase of the virus. We are hoping that this treatment may reduce the drug load on the SCLC patients affected by Covid-19, he said.

However, the effectiveness of the identified drugs needs to be further validated in wet laboratories (one where drugs, chemicals, and other types of biological matter can be analyzed and tested), he added.

A research scholar PM Shiva Priya had completed the initial phase of the project as a part of her PhD. thesis. Other scientists from IIIT-Allahabad who are involved in this project are Prof Prithish Varadwaj, assistant professor Amaresh K Sahoo and Anirudh Singh, another PhD student.