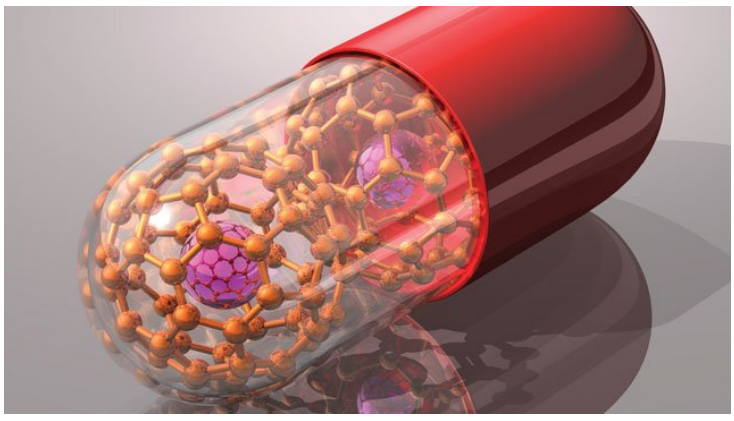
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Nanomedicine for liver cancer by Amrita researchers gets US, Australia patent

13 September 2022 | News

The patents bagged in US and Australia holds great promise for early detection and treatment of liver cirrhosis and liver tumour



Researchers from the School of Nanosciences & Molecular Medicine at Amrita Vishwa Vidyapeetham, Coimbatore have won a patent in the US and Australia for a novel nanomedicine that holds great promise for early detection and treatment of liver cirrhosis and liver tumour. The invention is the outcome of a research project funded by the Nanobiotechnology Taskforce of Dept of Biotechnology, Government of India.

Dr Shantikumar V Nair and Professor Dr Manzoor Koyakutty from Amrita School of Nanosciences & Molecular Medicine in Kochi led a team of four researchers – Dr Anusha Ashokan, Dr Ida M Anna, Dr Vijay Harish, Dr Badrinath Sridharan – to create a special type of nanomedicine that responds to radio wave signals sent from outside the body. Once the nanoparticles are injected into a tumour, they can be heated up using external, medically approved radio waves. Doctors can visualise the tumour using an MRI machine and burn it off in a controlled manner.

Amrita researchers have demonstrated that the novel technology can be used for early detection of liver cirrhosis and liver tumour, early-stage image-guided treatment of liver tumour using radio-frequency ablation therapy as well as labelling and tracking the movement of stem cells inside the body after stem-cell transplantation to assess how effective the therapy has been.