

# Liver gets 'aide-in-need'

**IIT-K PROFS** have developed a liver support system that can give 'rest' to it

**Gaurav Tripathi**

gaurav.tripathi@hindustantimes.com

**KANPUR:** Millions of people suffering from chronic liver diseases would soon get a new lease on life as scientists at Indian Institute of Technology Kanpur (IIT-K) have developed Bio Artificial Liver Support (BALS).

The device that can be hung outside the body like a glucose bottle, performs all the functions of a normal liver, giving it complete rest till such a time as the ailing organ recuperates.

A boon for patients, the treatment is 10 to 20 per cent cheaper than the existing facilities available in the country.

Those suffering from hepatitis or other chronic ailments of liver and the doctors treating them often want the original liver to rest for some time, which was not possible till now.

Now, BALS offers them hope. It can prove to be of immense

## THE PLAN

- The treatment is 10 to 20 per cent cheaper than the existing facilities available in the country.
- The device that can be hung outside the body like a glucose bottle, performs all the functions of a normal liver, giving it complete rest till such a time as the ailing organ recuperates
- BALS is connected to human arteries and veins and performs all the functions of liver in a natural way.
- Scientists at IIT-K have developed the device in association with GB Pant hospital in New Delhi, under the project given



by Union Ministry of Science and Technology.

- They have recently tested it successfully in the laboratory of Kyushu University in Japan

help even during liver transplants. BALS is connected to human arteries and veins and performs all the functions of liver in a natural way.

Once the original liver is fully treated, BALS is removed and

people again start leading a normal life. It has the tendency to grow human/liver cells on it and, being a natural artificial reactor, it works as a normal liver.

Scientists at IIT-K have devel-

**Designing the material involves a major technology. We obtained natural polymer from crab shell. We named it chitosan. With this we made Bio Reactor**

**ASHOK KUMAR**  
IIT-K Professor

oped the device in association with GB Pant hospital in New Delhi, under the project given by Union Ministry of Science and Technology. They have recently tested it successfully in the laboratory of Kyushu University in Japan.

"The material used in BALS is unique and can be used for multiple things," said Professor Ashok Kumar of department of Biological Sciences and Bio-

Engineering (BSBE) in IIT-K. Prof Kumar told Hindustan Times, "Designing the material involves a major technology."

We obtained natural polymer from crab shell. We named it chitosan. With this we made Bio Reactor — a natural medical device on which cells grow automatically while it is kept outside the human body.

"The Bio Reactor has small tubes 20 cm long and 4 cm diameter. Polymer gel, plasma and blood run through it and enter the body to keep the functioning of human body intact despite the normal liver being damaged.

It secretes enzymes, albumin and performs all other functions of liver in purely biological way."

By taking over the functioning of liver, BALS offers the ever-working vital organ time to recuperate, Professor Kumar said.