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Diagnosis and Curative Treatment for Liver Cirrhosis

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Abstract

The main reason of Cirrhosis is the formation of thickened cell line with proteins called as FIBROTICS. Fibrosis means formation of excess of tissue as in a reparative or reactive process. Chronic scarring with liver results in damage to the reparative nodules which is severe and non-reversible. If it is allowed to continue, the buildup of scarred tissue can eventually stop the functions of the liver. Perisinusoidal space in the regenerative nodules has stellate cells which are present below the Hepatocytes and above the Sinusoid. Sinusoid carries the blood along with other cells. The stellate cells in the perisinusoidal space contain vitamin A (quiescent) which get activated after injury. These cells secrete TGF-β and produce collagen. In normal state liver carries wound healing process but when comes to constant injury, the collagen with fibrosis makes the stellate cells to enlarge resulting in the compression of the sinusoid. It creates a pressure in the sinusoid which moves the fluid from the sinusoid to peritoneal cavity that causes ASCITES, the one of the symptoms of cirrhosis. Further enlargement will cause congestive splenomegaly. This is the main reason for the diversion of blood to portosystemic shunt. This finally results in hepatorenal failure (liver failure).

Our idea is to bring permanent cure and prevention to the liver cirrhosis by using Nano-robots. A Nano-robot is designed by ELECTRIC-BIOSENSOR. Mostly the nanoparticles present in the samples are used. Drugs like aspirin, dicumarol, and arsenicals destroy the vitamin A. The Nanobots carrying these samples detect the vitamin A and subsequently inactivates them. This leads to shrinking of the cells in the liver and cures the liver cirrhosis. It prevents the liver cirrhosis in starting stage itself.

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