

Scientists develop new wound-healing cream from wood

By Dr Swati Subodh

Twitter handle: @Swatisubodh

New Delhi, May 2 (India Science Wire): A group of Indian researchers have modified lignin - which is present in naturally occurring wood - to develop a quick wound-healing ointment.

They have modified lignin by adding certain chemical substances to produce a lignin derived copolymer. This polymer, when combined with water-based gel, showed drug loading capability and better elasticity, in addition to prevention of wound related infections. All this is essential for quick wound healing.

The new formulation worked well in laboratory animals with skin burns which are additionally prone to infections.

It has also been found that the new formulation has anti-fungal and anti-bacterial properties, and can be used in treatment and prevention of skin inflammation, which is essentially the redness and swelling around the site of injury often accompanied by hot burning sensation.

The lignin-based formulation when applied at the site of injury in combination with a drug (like antibiotics) produced better results compared to local application of antibiotics alone. The effectiveness was measured through the level of an indicator protein called CRP, which goes up manifolds in the blood when the body encounters injury or infection.

This, researchers say, shows that the new formulation when combined with appropriate drug can offer better protection and relief to skin injuries and faster recovery time. The researchers claim that it is for these reasons that repeated change of dressing and re-application of formulation at the site of injury is also not required.

The study has been done jointly by scientists at the Indian Institute of Technology, Kharagpur, Jawaharlal Nehru University, New Delhi, University of North Bengal, Siliguri and Rush University Medical Centre, Chicago. The study results have been published in journal *Scientific Reports*.

The research group has studied the mechanisms that are triggered or suppressed by the lignin-based formulation within the cells to cause its enhanced therapeutic effect. This insight can help develop next generation ointments for skin burns. **(India Science Wire)**