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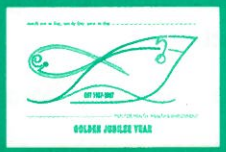
Niseema Printers & Publishers, Cochin - 18

2007



Collagen - Chitosan membrane from fish- Periodontal application

ICAR

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Collagen - Chitosan membrane from fish - Periodontal application

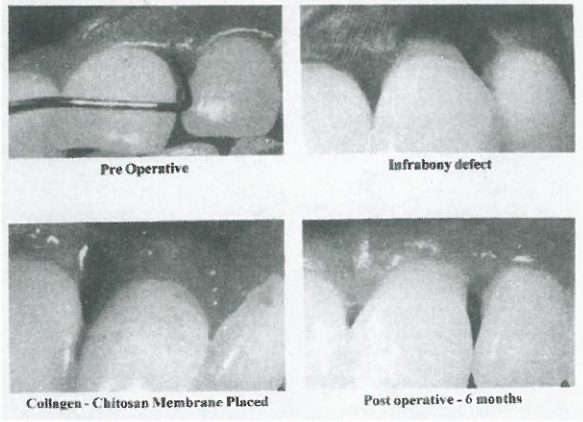
Tooth salvaging by periodontists is set to benefit from a new fish-derived membrane, which has emerged from a clinical trial as an appropriate bio-absorptive natural medium for surgical correction of periodontal defects.

What exactly is a collagen-chitosan membrane?

Collagen-chitosan membrane is derived from collagen of fish air bladder and chitosan of prawn shell. Good haemostatic and healing properties, good ability for guided tissue regeneration, bio-absorbability and non-antigenic nature make this membrane unique among various GTR membranes.

A six month experimental trial carried out as part of a research project at the Department of Periodontics, Thiruvananthapuram Dental College gave promising results.

This is the first time that an artificial membrane was used for periodontal GTR applications. The Central Institute of Fisheries Technology was instrumental in developing this novel membrane.



Guided tissue regeneration in dental surgery using collagen-chitosan barrier membrane

How does the membrane act ?

The membrane, which has been found to possess haemostatic and healing properties, when introduced to the gingival site, acts as physical barrier and closes out the margin of detachment between the soft and hard tissues. The membrane achieves this by providing a space in the gingiva to which healthy periodontal cells can migrate, thus providing for sustainable tissue regeneration.

Using films with 0.1mm thickness, faster GTR takes place and it is observed by the periodontists that the depth of tissue-tooth detachment can be reduced from 8 mm to 2 mm in 6 months, or in other words, achieve a 6 mm tissue regeneration. Radiography and re-entry measures supported these results.

Valuable substitute

The fish derived membrane could be a superior substitute for the synthetic teflon, which is the gold standard for GTR procedures. The problems with teflon mainly pertain to its high cost and non-bioabsorbability necessitating a second surgery after a few weeks to remove the non-bioabsorptive teflon once the soft tissue-hard tissue binding is complete.

The membrane also conforms to current concepts of eliminating inflammation and infection in the tooth/gum area as well as requirements of salvaging the tooth through guided tissue regeneration.

The laboratory level technology for commercial exploitation is available from CIFT.