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Editorial

CHX as LDD agent

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There are many commercially available LDD systems containing chlorhexidine (CHX). Commonly used CHX-containing LDD systems.

PerioChip

CHX mouth rinses have been widely utilised as a plaque control measure. It's the gold standard of oral plaque control due to its shown effectiveness in reducing gingivitis and plaque. But, as previously mentioned, when used as a mouthwash, it might not reach the entire depth of the periodontal pocket. A CHX-containing LDD formulation called PerioChip was created in the 1990s. A bio-absorbable gelatin matrix containing 2.5 mg of chlorhexidine gluconate made up the system.

The dimensions of each chip are 4 x 5 x 0.35 mm. The strip has a rounded end and is orange-brown in colour. Gently put the rounded end of the strip into the periodontal pocket, ensuring that it reaches the whole depth of the pocket. The area should be dried before the chip is inserted to prevent it from becoming mushy from saliva contact, which would make it challenging to implant. The chip deteriorates in 7–10 days due to self-retention.

Periocol-CG

This system is made up of Type-I collagen membrane (fish-derived) that has 2.5 mg of CHX (from a 20% CHX solution). The chip is 4 mm by 5 mm and has a thickness of 0.25 to 0.32 mm. It weighs 10 mg.

The collagen membrane utilised in this technology offers a number of benefits. This protein is found naturally and has good hemostatic qualities. Because of its fibrillar shape, which resembles a scaffold, it is chemotactic for fibroblasts and improves fibroblast adhesion. Within the first 24 hours of installation, 40–45% of CHX is released, and the remaining medication is released in a linear pattern over the course of 7-8 days. In thirty days, the chip resorbs completely.

Chlo-Site

The system is gel-based and has 1.5% CHX in it. Xanthan gel, a saccharidic polymer, is the component of the carrier system. It forms a three-dimensional pseudo-plastic reticulum when coupled with water. Chemotherapeutic chemicals can be retained by this matrix and subsequently released gradually based on their molecular and physical properties. Periodontal dressing is not necessary because the gel has strong adhesive qualities in the periodontal pocket.

After insertion, the gel dissolves after 10–30 days. For a maximum of fifteen days, CHX's effective antibacterial concentration is sustained.

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Research has been conducted to assess the decrease in periodontal infections following the subgingival implantation of LDD devices containing chlorhexidine. For a total of nine days of exposure, Stabholz et al. (1986) inserted ethyl cellulose strips containing CHX into periodontal pockets every three days. The study's findings showed that, for up to 11 weeks after treatment, there was a reduction in spirochetes, motile rods, and pocket depth.[1]

Jeffcoat et al. (2000) assessed the modifications in clinical parameters following SRP, CHX chips + SRP, and placebo chip + SRP in patients with periodontitis during a nine-month clinical experiment. The study's findings showed that 15% of the areas where SRP alone was used saw a 0.04 mm loss of bone. On the other hand, sites that had SRP+ CHX chips saw an average gain of 0.1 mm in bone.[2]

Soskolne et al. (1997) showed that patients with chronic periodontitis responded better to the SRP+ CHX chip than to SRP alone in another research with smokers.[3]

Conflict of Interest

None.

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