Silver Compounds Cheat Sheet

by schuettl via cheatography.com/20916/cs/4226/

Types of Silver Compounds

1) Silver Nitrate (AgNO3)
2) Sliver fluoride (AgF) *not popular
3) Silver diammine fluoride (SDF)

History of Silver

Silver has been used in dentistry since the 1840s, when silver nitrate was used to reduce the incidence of caries in the primary dentition

Silver is an anti-microbial agent used in medicine and dentistry due to its broad spectrum activity, low toxicity and lack of cross - spectrum bacterial resistance

What about silver in amalgam? It has not been shown to have long-term anticaries effects

Mechanism of Action?

We're not sure but the antimicrobial effect is postulated to come from the release of silver ions via:
1) destruction of cell wall structure
2) denaturation of cytoplasmic enzymes
3) inhibition of microbic DNA replication

Silver Nitrate

About the Pulp: In the studies reviewed in this article, silver nitrate was shown to penetrate both sound and carious dentin, both vital and non-vital dentin and has a mild, self-limiting, localized effect on the pulp

Biocompatibility of Silver

Silver has been shown to be biocompatible and is used for a range of medical devices

Excess silver accumulates in skin, liver, kidneys, spleen, corneas, gingiva, mucous membranes, nails; In areas of the body exposed to light, prolonged exposure to large amounts of silver compounds results in irreversible pigmentation of the skin- called argyria- or eyes- called argyrosis.

Manufacturer (Saforide) of SDF recommends patient rinse mouth with water or saline after topical application of SDF to remove the excess agent

Silver Diammine Fluoride

Several RCTs show SDF to be more effective at arresting caries than fluoride varnish alone

Some studies show SDF to have a desensitizing effect

Conclusions

Silver compounds are effective agents to prevent and arrest caries

Most obvious disadvantage is discoloration of demineralized tissue

Source

This sheet is a summary of a review published in the Journal of Dentistry in 2012
Silver compounds used in dentistry for caries management: a review.
Journal of Dentistry , 2012, Vol.40(7), p.531-541

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Published 29th May, 2015.
Last updated 11th May, 2016.

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