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## Effectiveness of Casein Phosphopeptide-Amorphous Calcium Phosphate (CPPACP) in Remineralization of Early Carious Lesions: A systematic review

**Introduction:** The incipient carious lesion is a sign of the earliest stage of tooth demineralisation and the reversal of these lesions can be achieved by non-invasive strategies. Recent investigations have particularly looked into the effect of casein phosphopeptide-amorphous calcium phosphate (CPP-ACP) for remineralization of early carious lesions. Although fluoride has been well known to promote the remineralization of early carious lesions, there is still a need for new treatment therapies that can target caries at its early stage.

**Aim:** To assess the long term effectiveness of CPP-ACP with daily fluoride use versus daily fluoride use alone on remineralization of early carious lesions in randomized controlled trials (RCTs).

**Material and methods:** A systematic literature search was conducted following the PRISMA 2009 statement. The literature obtained from the searches in electronic databases were reviewed individually by two reviewers and the relevant titles and abstracts were selected with specific inclusion and exclusion criteria. The search was limited to articles published in English. Only randomized controlled clinical trials (RCTs) in which CPP-ACP was delivered by cream form were selected. The included studies were assessed for risk of bias and quality independently by two reviewers.

**Results:** The initial search carried out on PubMed and the Cochrane Library for publications up to January 2018 resulted in 267 scientific articles. Six randomized controlled trials (RCTs) were met the inclusion and exclusion criteria and were selected as eligible studies. Out of six studies in this review, three studies were judged to have a low risk of bias, one study was classified as moderate risk of bias and two studies were high risk of bias. No specific adverse effect related to CPP-ACP usage was observed.

**Conclusions:** Based on the literature, there is a tendency towards the benefits of CPP-ACP usage in addition to fluoride toothpaste and/or mouth rinse compared to fluoride toothpaste and/or mouth rinse alone on regression of early carious lesions. However, further well-designed long term clinical trials are required to establish this therapeutic strategy in the main stream clinical practice.

### Biography

Ahmad Sulaiman Albahoth has completed Bachelor in Dental Sciences & Oral Surgery at Collage of Dentistry from Qassim University, Saudi Arabia. Ahmad Sulaiman Albahoth working as teaching assistant in restorative department at Qassim Dental College. He has obtained his masters in college of dentistry from Malmö University, Sweden.

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