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Role of Serum Magnesium in Dental Caries

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Objective: Minerals have been studied for their effects on the process of dental caries. A number of mineral ions such as calcium, phosphate, sodium, magnesium, fluoride and potassium can check, prevent and even re-mineralize the early lesion if present in reasonable amounts. This study investigated the role of serum magnesium in patients with dental caries.

Design: Experimental study.

Setting: College of Medicine, Qassim University, Saudi Arabia.

Methods: Total 112 subjects were selected, A detailed oro-dental examination was carried out according to the guidelines provided by professional dentists in a well illuminated examination room. All the patients were divided into 4 groups as per decayed, missed, filled teeth (DMFT) index. Following the institutional ethical criteria and getting the informed consent from all the subjects, venous blood samples were collected and processed for serum magnesium estimation.

Results: The patient's groups with high DMFT index showed significantly high levels of serum pH and significantly low levels of serum magnesium as compared to controls. These findings suggested that the suitable serum pH is regarded as one of the main protective factors against dental caries.

Conclusion: Optimum level of serum magnesium may be responsible for continuous supply of magnesium to arrest the demineralization and reduces the occurrence of dental caries. It can therefore, be concluded that the adequate levels of serum pH and serum magnesium need to be maintained to reduce the progression and development of dental caries.

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