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Inhibition effect of four iron supplements on dental caries initiation

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Objective: Previous experimental animals and laboratory studies revealed the cariostatic effect of iron supplements on mutants' streptococci bacteria. The purpose of this in-vitro study was to examine the inhibition effect of four iron supplements on the initiation of dental caries.

Materials & Methods: Four products of iron supplements were used. These products were: (1) Fre-in-sol (Bristol Myers Squibb Company, New Jersey, USA), (2) Ferotonic (Ram Pharmaceutical, Amman, Jordan), (3) Feromin (Riyadh Pharma, Riyadh, KSA) and (4) Ferose (Spimaco Al Qassim Pharmaceutical Plant, Saudi Arabia). 120 extracted human teeth were distributed randomly into six groups (n=20). Four groups from the iron products, in addition to a positive and a negative control groups were considered for studies. Mutants Streptococci bacteria (6715) grown in Todd Hewitt Broth were used. Assessment of decalcification and cavitation by two examiners was done daily for 60 days. In this study, visual examination was used for the diagnosis of decalcification and dental explorer was used for diagnosis of cavitation (Tactile examination).

Results: All iron supplements have cariostatic effect and delayed the initiation of the dental caries except ferose product. Proper inspection and examination for teeth in all groups revealed that the mean dates for decalcification varied, with lowest for the positive control (10 days) and the highest was for feromin. Cavitation was initiated in two groups; the negative control and ferose groups. The mean of the first day of cavitation was after 55 days.

Conclusion & Recommendation: Some iron-supplement products have cariostatic effect and delayed the initiation of the dental caries in human teeth. It is advisable to ask pedestrians managing children suffering iron deficiency anemia to prescribe iron – supplement products have double actions of treatment of anemia and fighting dental caries.

Biography

Dr. Ahmed Elmarakby has completed his PhD and postdoctoral studies both were from Al-Azhar University Faculty of Dentistry, Cairo, Egypt at the age of 38 years. He is Assistant Professor of restorative dentistry science, Alfarami Colleges, KSA. He is a Lecturer in Operative Dentistry Department, Faculty of Dentistry, Al-Azhar University, Egypt. He has published 6 papers in international journal. He shared many posters in the KSA, Europe and USA. Also he has acceptance to 6 posters in 6 international conferences at this year 2017.

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