Temporo-mandibular joint complex disorders due to complete/partial edentulism and debate on prosthetic rehabilitation

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The lack of complete dentition leads to serious functional & esthetic disabilities, in fact the individual's quality of life. The commercialized dental practice focused on the prosthetic rehabilitation was limited to anterior teeth due to esthetic reasons and rarely the posteriors, hence leading to inefficient and unprofessional approach. Occlusion and its relationship with the temporo-mandibular joint has always been debated. The homeostasis characterizing the triad for healthy masticatory system depends on the dynamic relationship between dental occlusion, masticatory musculature, and the temporo-mandibular joints. Disruption of this leads to the TMJ disorders. TMJ pain dysfunction syndrome may be related to rapid change on vertical occlusal dimensions. The major occlusal stops (Molars and Pre-molars) make up the area of occlusal support. The loss of those stops makes the residual teeth in the oral cavity absorb even greater load, ultimately leads to aggressive abrasion and lowering of the occlusal height. This results in the mandible coming closer to the maxilla and frequently also the posterior dislocation of the mandible. Such a change of the position of the mandible against the maxilla disrupts the TMJ biomechanics and may generate various temporo-mandibular disorders (TMD). Resulting sequelae of such dysfunctions is persistent pain in the TMJs, also the masticatory muscles and radiation across the head. Temporo-mandibular joint dysfunction is multifactorial and hence entails a multidisciplinary approach. However, there are studies that tried to feature the quite ignored aspect of rehabilitation. Number of stomatognathic and prosthodontic studies was conducted to evaluate the prevalence of missing teeth and TMDs. It was concluded that replacement of missing teeth not necessarily prevents the development of TMDs. However, missing mandibular posterior teeth may accelerate the development of degenerative joint disease. In a review of 57 epidemiological studies, Okeson found that 35 suggested relation compared with 22 studies that suggested no relation. It was documented that significant change in the condylar position occurred after prosthetic rehabilitation (concentric position + 0.35 mm). Occlusion has not been determined as the dominant cause of TMD problems. However, the interrelationship between this harmonious complex of masticatory musculatures, occlusion and temporo-mandibular joint cannot be overlooked. The association of partial/total edentulism on the TMJ health has not been addressed through any long term clinical trials due to the complexity of stomatognathic system. Researchers should conduct long term studies on the importance of prosthetic rehabilitation to prevent long term disregarded hazards of the TMJ complex.

Biography

FaranFarooq has completed his Bachelor of Dental Surgery from Dow University of Health Sciences. He is a careful and creative thinker with an eye for details and devotion to logic. He is known for his vast volunteer services along with community outreach programs. He has terrific ability to draw on his own experience and observations to develop thoughtful opinions on variety of issues. Moreover, he is known for his versatile pulling of thoughts into a scientific paper which makes him excel to being highly analytical.

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