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ESTIMATION OF SUBSTANCE P LEVELS IN GINGIVAL CREVICULAR FLUID AFTER BITE WAFER CHEWING TO VALIDATE PAIN REDUCTION AFTER INITIAL ARCHWIRE PLACEMENT- A PROSPECTIVE CASE CONTROL STUDY

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ABSTRACT

Introduction: Pain and discomfort are common complaints following orthodontic appointments. Studies have indicated that the rhythmic chewing of a Bite-wafer, reduced pain and discomfort after arch wire placement. Substance P levels in GCF show significant elevation during incidences of pain. As there is insufficient literature regarding the exact mechanism of pain control by bite wafer chewing, we need to assess the Substance P levels in GCF.

Methods: A parallel 2-group prospective case control study was designed for estimation of substance p levels in GCF after bite-wafer chewing to validate orthodontic pain reduction. The sample size consisted of 20 subjects who were randomly divided into two groups: Bite wafer group (BWG) and second as the control group (CG). Gingival crevicular fluid was collected from bite wafer and control group before and 8, 24 and 72 hours after initiation of orthodontic treatment. Independent sample t test were applied in between the control and experimental group to evaluate the significance difference between the groups.

Results: The substance p level in GCF for both the bite wafer and control group followed a similar curve i.e., their level increased after 8 hours, reached its peak at 24 hours and decreased gradually at 72 hours. The mean substance P level was significantly lower in bite wafer group compared to control group which implied that rhythmic chewing of bite wafer helps in alleviating pain.