PSC5: A Qualitative Experimental Study on the Efficacy of Polydioxanone Suture (PDS) I as Internal Fixator among Pediatric Patients with Open Displaced Linear Fracture of the Mandibular Body, Angle or Symphysis Admitted in a Tertiary Hospital from November 2016 – May 2018

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OBJECTIVE: This study aims to determine the efficacy of Polydioxanone Suture as an internal fixator in cases of pediatric fractures of the mandible involving the symphysis, body and angle in terms of maintained alignment and fixation, restored pre-injury occlusion, and unhampered TMJ mobility after the entire course of the treatment.

METHODS:
DESIGN: Qualitative Experimental Study
SETTING:Tertiary Government Hospital

SUBJECTS: Three (3) pediatric patients between 5 – 17 years old sustaining open, displaced, linear fracture of the mandible involving the symphysis, the body, or the angle. Included in the subjects were those who are not able to comply with the ideal hardware for fixation, resorbable or titanium plates and screws. Furthermore, only those patients who have sustained injury in less than 14 days were included.

RESULTS: All three (3) patients had maintained alignment throughout the entire course of the treatment, and as result restoration of the pre-injury occlusion was achieved. Radiographically, progressive signs of a healing fracture were noted 2 weeks, 4 weeks and 8 weeks post-surgery. Furthermore, TMJ mobility was unhampered, as all three (3) patients attained a measured mouth opening of greater than 3 cm's, a distance in between the maxillary and mandibular incisors.

CONCLUSION: Polydioxanone Suture I can be used in conjunction with an intermandibular-maxillary fixation, as an adequate replacement and much lesser expensive internal fixator for pediatric patients with sustained open, displaced, linear fractures of the mandible.

KEYWORDS: mandibular fracture, polydioxanone suture, temporomandibular joint mobility, occlusion