

# DERMAL FILLER FOR THE DREADED BLACK TRIANGLE :

## A CLINICAL CASE TRIAL

### INTRODUCTION

Dermal fillers are taking the world by a storm where dental aesthetics is given prime importance. Papilla reconstructs being a challenge for a periodontist, dermal fillers like hyaluronic acid can act as a minimally invasive technique or reconstruction.

### AIM

The purpose of this prospective clinical trial was to evaluate the aesthetic reconstruction of interdental papilla in anterior teeth using a dermal filler (hyaluronic acid gel) .

### MATERIAL & METHODS

10 adults with at least one anterior site with class I or II interdental papilla loss were recruited. The area of the black triangle was noted at baseline. Following local anesthesia, 0.2 ml hyaluronic acid gel was injected at the base of the papilla and the plumping effect noted. The patient was recalled after 7 days for revaluation & a second injection administered if needed for complete papillary fill. Papilla fill was evaluated by Papillary presence score (PPI).

CASE 1



PRE OPERATIVE



HYALURONIC ACID INJECTION



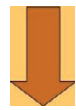
POST OPERATIVE 3 MONTH



Dreaded black triangle, measured by using image software

### MECHANISM OF ACTION OF HYALURONIC ACID

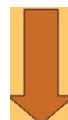
Hyaluronic acid is a linear polysaccharide of the extracellular matrix of connective tissue .



It associates with proteins that are enriched in the other types of glycosaminoglycans to form proteoglycans



It is directly or indirectly related to many cell functions, like cell proliferation



Hence, when injected it increases the subcutaneous volume of connective tissue and causes a plumping effect for papilla fill

CASE 2



PRE OPERATIVE



HYALURONIC ACID INJECTION



POST OPERATIVE 3 MONTH

### RESULTS

The area of the black triangle recorded preoperative at  $2.1 \pm 1.2 \text{ mm}^2$  reduced to  $1.1 \pm 0.7 \text{ mm}^2$  at 4 weeks and to  $0.7 \pm 0.5 \text{ mm}^2$  at 3 months as evaluated by photographic measurement and using Image j software, indicating enhanced papillary fill of the interdental embrasure. Differences for PPI score reduced from 3 to 1 between baseline and postoperative visits after 3 months, which was statistically significant ( $p < 0.05$ ).

### REFERENCE

1. Awartani FA, Tatakis DN: Interdental papilla loss: treatment by hyaluronic acid gel injection: a case series. Clin Oral Investig.2016 Sep;20(7):1775-80.

### DISCUSSION

- A)Awartani FA et al. (2015)- Used 0.2 ml hyaluronic acid for papilla reconstruction and obtained 75% successful patients with complete papillary fill after 6 months follow up.
- B) Ziahosseini et al. (2014)- Significant 80% papilla fill for a period of 6 months with 0.2 ml hyaluronic acid with successful patient satisfaction.
- C) Mansouri SS et al. (2013)- 0.2 ml hyaluronic acid for papilla fill; only 10% patients obtained complete papilla fill. Hence further studies need to be done with follow-ups to improve the use of hyaluronic acid for papilla reconstruction.

### CONCLUSION

Hyaluronic acid gel can be effectively used to treat interdental papilla loss with significant patient satisfaction..