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EFFECTIVITY OF COMMERCIAL ISOTONIC DRINK
AS TOOTH AVULSION STORAGE

(AN EXPERIMENTAL LABORATORY)

ABSTRACT

Background. *Tooth avulsion is one of the orofacial trauma incidents. Immediate replantation is the alternative treatment of this case. The vitality of ligament periodontal determines the prognoses of tooth replantation. So, it needs a storage media before replantation to preserve vitality of ligament periodontal. Isotonic commercial drink may be suggested as a tooth avulsion storage media due to isotonicity and commercially available.* **Purpose.** *The aim of this research was to study the effectivity of commercial isotonic drink as tooth avulsion storage.* **Method.** *Twenty four freshly extracted Cavia cobaya teeth were divide into 3 experimental group (Group A, B, C) and 1 compare group (Group D). The dry time of each group was 3 minutes include the curettation time before 30 minutes immersion. Group A immersed in a commercial isotonic drink without vitamin and coloring substance. Group B immersed in a commercial isotonic drink with vitamin. Group C immersed in commercial isotonic drink with coloring substance. Then group D as comparing group was immersed with saline isotonic. Afterward, fibroblasts from ligament periodontal was cultivated using collagenase/dispase assay and labeled with 0,4% Trypan Blue, then counting the vital and non vital fibroblasts with a hemocytometer under a light microscope. Percentages of vital fibroblast were counted with Bird and Forrester formula continued with anova and LSD data analyzing.* **Result.** *There were significant differences of fibroblast vital percentage from 4 groups ($p < 0,05$). The average of fibroblasts vital percentage in Group A was 74,397%, in group B was 95,72417%, in group C was 95,75700%, and in group D was 87,65683%. From LSD test, percentage of vital fibroblast Group B and C were significantly higher than the others group ($p < 0,05$).* **Conclusion.** *Isotonic Commercial Drink was effective as tooth avulsion storage for 30 minutes using fibroblast vitality test.*

Key words: *tooth avulsion, replantation, fibroblast, storage media, isotonic commercial drink*