Advances in Modified Osteo-Odonto Keratoprosthesis Technique (MOOKP) for the Treatment of Combat Related Corneal Blindness

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PURPOSE
To fabricate a mill to easily and safely shape the lamina and to compare the efficacy of 2 novel bonding agents to dental acrylic.

EXPERIMENTAL APPARATUS

A. Simulated Osteo-Odonto Lamina; B. Mounted Simulated Osteo-Odonto Lamina; C. Apparatus Utilized to Apply Force to the Simulated Osteo-Odonto Lamina; D. Application of 200 gm Weight to the Apparatus

METHODS
An autoclavable micro-mill was built and K-Pro laminas were created using extracted canines. The temperature was monitored internally. The strengths of cyanoacrylate adhesive (Histoacryl), a 2-parts bone cement (Stryker) and the acrylic (Jet) were compared. 4 laminas/agent immersed in BSS maintained at 36°C since 11/7/2011 were monthly subjected to a 1kg force (IOP equivalent=>200mmHg).

RESULTS
The MOOKP micro-mill was shown to be as efficacious as the manual technique, as it took less than 10 mins to create a lamina. Moreover, the canine’s canal temperature never exceeded 38°C whereas with the manual technique, it exceeded 60°C. None of the 12 cemented laminas failed the force tests at 10 months.

CONCLUSION

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REFERENCES


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