

STUDY OF A SURFACE QUALITY AFTER A DIRECT COMPOSITE POSTERIOR RESTORATION. VERNET* F. ; PELISSIER B. UFR Montpellier

OBJECTIVE OF THE STUDY : comparative procedure of posterior composite restorations with direct clinical applications.

MATERIALS AND METHODS :

4 FRESHLY EXTRACTED THIRD MOLAR TEETH
(conserved in PBS at 20° C for 1 week)

PREPARATION OF ONE CLASS II
CAVITY PER TOOTH
depth of cavity : 4 mm



2 teeth
SOLITAIRE GROUP

Solitaire
3 layers
polymerization : 20s each layer
3M light 2500

2 teeth
SANDWICH GROUP

Solitaire for dentine and Charisma for enamel
3 layers
polymerization : 20s each layer
3M light 2500

FINISHING AND POLISHING :
ENHANCE DENTSPLY CAULK
SYSTEM
(for 3 mn)

VISUAL ANALYSIS AND SCANNING ELECTRON
MICROSCOPY OF REPLICATES



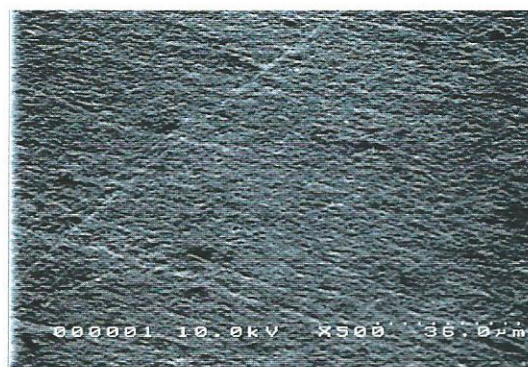
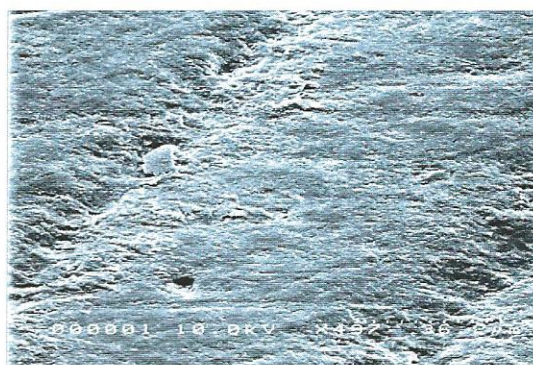
RESULTS :

Visual results



	Solitaire®	Solitaire® + Charisma®
Dry	Matt	Shiny
Wet	No difference	

Solitaire® Scanning electron microscopic observations Solitaire® + Charisma®



CONCLUSIONS :

The sandwich technique allows a better surface quality and consequently a better esthetic, functional and biological integration with direct clinical application. We have programmed a prospective in vivo study.

Mail form to : Prof D. DEVILLE de PERIERE. Université Montpellier I - Faculté d'Odontologie
545, Av. du Pr J.L. Viala BP 3405 34193 Montpellier cedex 5 - FRANCE

Deadline for submission
April 1st, 1999

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Study of a surface quality after a direct composite posterior restauration

F. VERNET*, B. PELISSIER (U.F.R. d'Odontologie Montpellier I).

The amalgam is going to be progressively replaced by condensable composite materials, according to direct techniques, and used in accordance with strict protocols of adhesive dentistry. The surface quality of the alternative materials to amalgam is inferior to the traditional composites. This study aims to analyse the surface state in vitro after polishing a posterior restauration, according to two different techniques. For this purpose, class II restorations were achieved on 4 wisdom teeth newly extracted from one individual. On the first two teeth, restorations have been carried out with Solitaire ® Heraeus Kulzer only. On the two remaining teeth, which represented a second group, restorations have been achieved according to the sandwich technique : Solitaire ® Heraeus Kulzer for the dentin and Charisma ® Heraeus Kulzer for the enamel. Restorations have been polished by the Enhance ® Dentsply Caulk system. As far as the in vitro electronic microscopic analysis (M.E.B.) is concerned, duplicatas of the restorations were made and observed. The results show a better result for the second group (the sandwich technique), mainly because of the composition differences and of the charges of both products. Therefore, the sandwich technique allows a better surface quality and consequently a better aesthetic, functional and biological integration.

Presenter Information :

(Type or print legibly in black or blue ink.)

1. Complete name and mailing address of the PRESENTER. All correspondence will be mailed to this address.

Name : VERNET

In care of :

Students give cooperating instructor's name)

Univ./Co. : Faculté d'Odontologie
de Montpellier

Dept. : Histology

Street Address : 545, avenue du

Pr. J.-L. Viala

City : MONTPELLIER

State/Country FRANCE

ZIP/Postal Code : 34193

2. Daytime Phone Number (include area code) :
04 67 58 82 43

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- (a) Behavioral Sciences/Health Services Research
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(c) Craniofacial Biology
(d) Dental Materials : I-Adhesion & Bonding
(e) Dental Materials : II-Ceramics & Cements
(f) Dental Materials : III-Polymers
(g) Dental Materials : IV-Other
(h) Diagnostic Systems
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(m) Infection Control
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(t) Periodontal Research-Pathogenesis
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(v) Pharmacology, Therapeutics, & Toxicology
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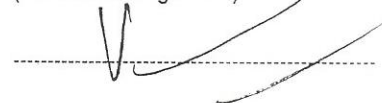
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9. List five descriptors by number (see reverse side). If existing descriptors do not fit your research, then write one new word under « Other ».

(1) 110 (2) 809
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(5) 187 (write numbers)
Other Microscopic Study

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181 **Influence of Streptococcus mutans on residual functions of hybrid composite.**
VALCARCEL J.*, TRAMINI P., PELISSIER B., BILAK R., MICHAILESCO P.M., ABADIE M.,
and LERNER D. Faculty of Odontology Montpellier I et II - ENSCM, Montpellier -
FRANCE.

182 **Contamination of toothbrushes: a longitudinal study.**
PINSARD-SOLHI H.* (1), MOISAN. X. (1), SIXOU J.L. (1), MINET J. (2), FINIDORI C.
(3), BONNAURE-MALLET M. (1) (1) Equipe de Biologie Buccale UPRES EA 1256 -
Université de Rennes - (2) Dept. of Bacteriology, CHR Rennes - (3) Synthelabo OTC,
Plessis Robinson, FRANCE

Saturday, September, 25th

Poster Session (Bibliothèque) 15:00 - 18:30

Dental Materials – Polymers and Other

Chair : G. DONDI DALL'OROLOGIO

Co-Chair : Tr. PAPADOPOULOS

- 323 **Study of a surface quality after a direct composite posterior restoration**
VERNET F.*, and PELISSIER B. U.F.R. d'Odontologie Montpellier I - FRANCE.
- 324 **Hydrophilicity of different silicone impression materials in the application phase**
WÖSTMANN B.* (1), and KNISPEL G. (2) (1) Department of Prosthodontics, Justus-Liebig-University, Giessen - (2) Scientific Department, Heraeus-Kulzer GmbH & Co.KG, Dormagen, GERMANY.
- 325 **Evaluation of new material for treatment of periodontitis**
CHOMYSZYN - GAJEWSKA M.*, PAMULA E., BLAZEWICZ M. Jagiellonian Univ. Dept. of Conservative. Dentistry & Periodontology.- Univ. of Mining & Met., Dept. of Adv. Ceramics, Cracow, POLAND.
- 326 **A SEM Analysis of a New Kind of Megafiller.**
ANDREASI BASSI M.*, ESPOSITO A., CITO C., and GORACCI G. Univ. of Rome «La Sapienza», Dept. of Operative Dentistry, ITALY.
- 327 **Measure of the Thickness of Some Commercially Available Composite Cements.**
ANDREASI BASSI M., ESPOSITO A.*, MORI G., and GORACCI G. Univ. of Rome «La Sapienza», Dep. of Operative Dentistry, ITALY.
- 328 **Analysis of the Mechanical Performances of Two Flow-able Composite Resins.**
ANDREASI BASSI M., FRASCHETTI G.*, GORACCI G., and BEDINI R. (1) Univ. of Rome «La Sapienza», Dep. of Oper. Dent.- (1) Superior Health Institute, ITALY.
- 329 **Influence of Environment on The Hardness Performance of «Condensable» Composites at 24hrs.»**
ALBERGO G.*, ACCARISI E., BEDINI R., (S) MARRONE A.C., SAMPALMIERI F. Dental Materials Dept - University of Ancona - (S) Biomedical Engineering Lab. ISTISAN Rome, ITALY.
- 330 **Flexural strength of composites cured with a plasma/halogen light source.**
BOSCHIAN L.*, RITZMANN J., and GAGLIANI M. University of Milan, Dept. Med, Surg and Dent San Paolo, Dental School, Milan, ITALY.