

Figure S1. SEM image of an apex, including 3 out of 4 investigated zones, x50.

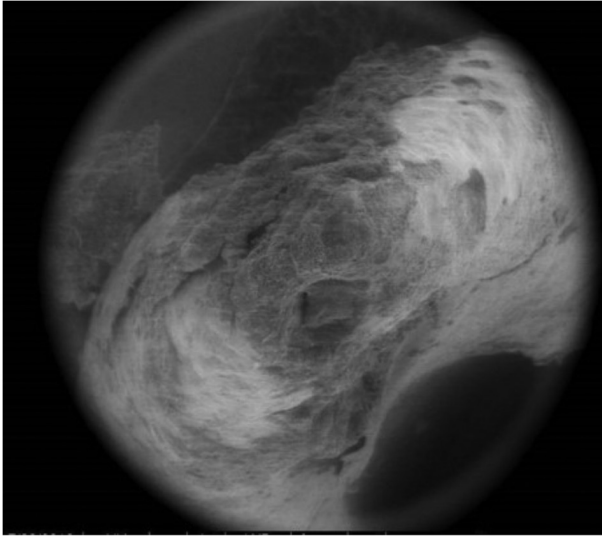


Figure S2. Accessory foramen, x100.

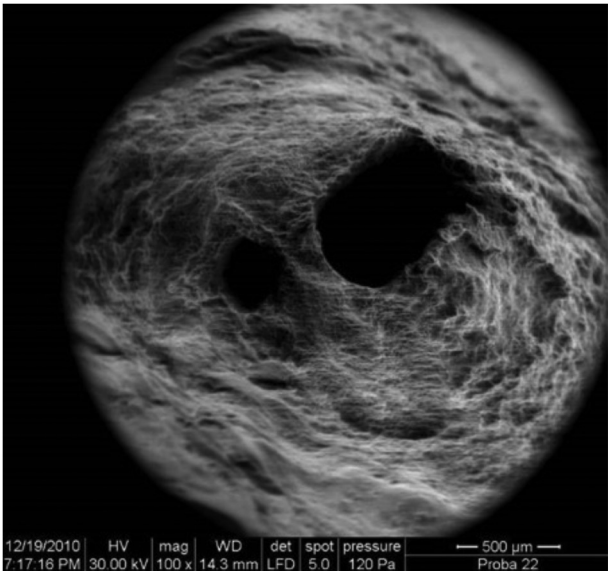


Figure S3. Old, multilayered established biofilm on the root surface in periodontal pocket, x1,200.

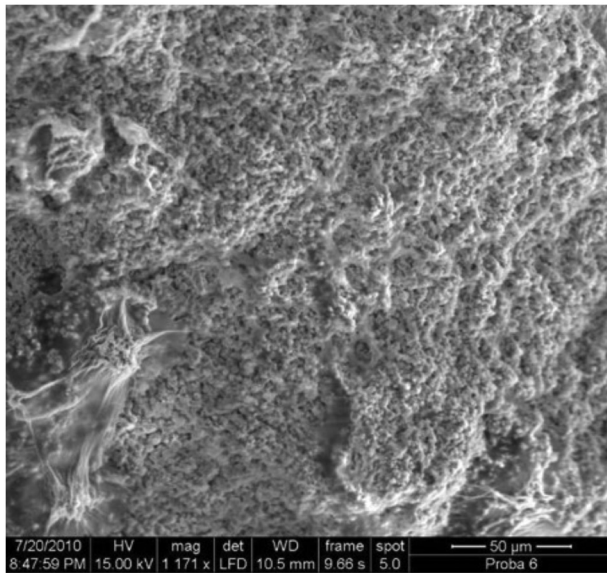


Figure S4. Agglomeration of coccoid bacteria. Note the fine pellicular strands of glycocalyx partially covering the layer of cocci, x4,100.

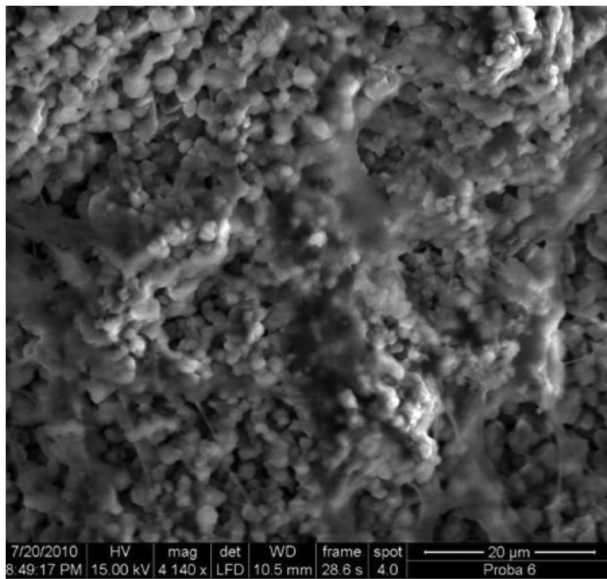


Figure S5. Layer of rods underneath a thick biofilm layer including mostly coccoid bacteria (9 o'clock), x8,000.

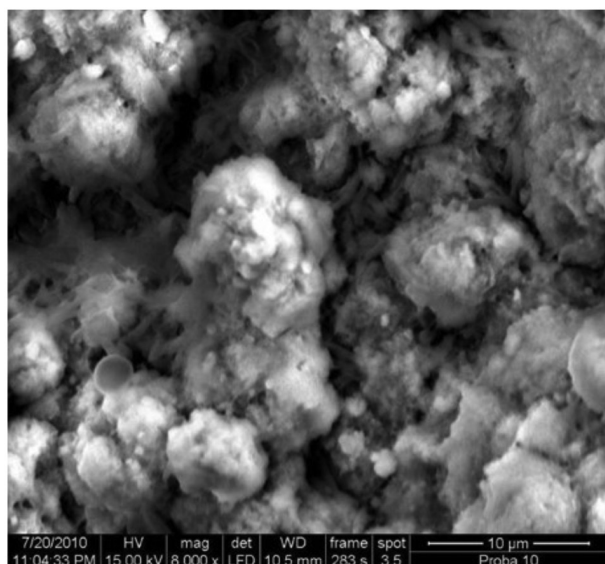


Figure S6. Residual periodontal fibers of normal density on the (still) attached root surface, x3,000.

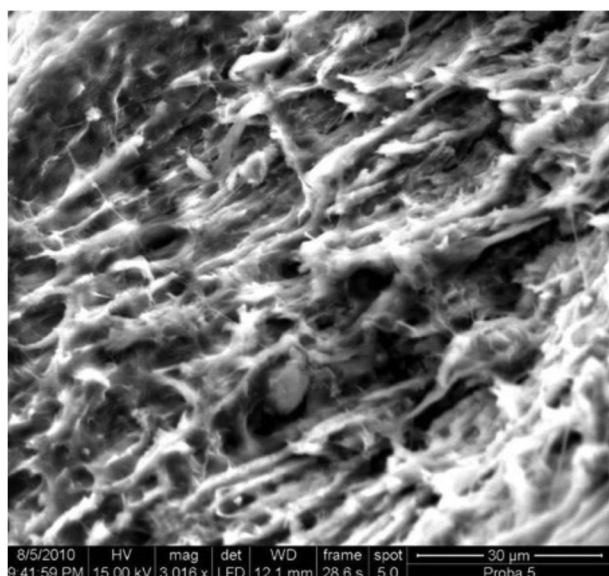


Figure S7. Multilayered aspect of the biofilm with filamentous microorganisms in the deep layer, x5,900.

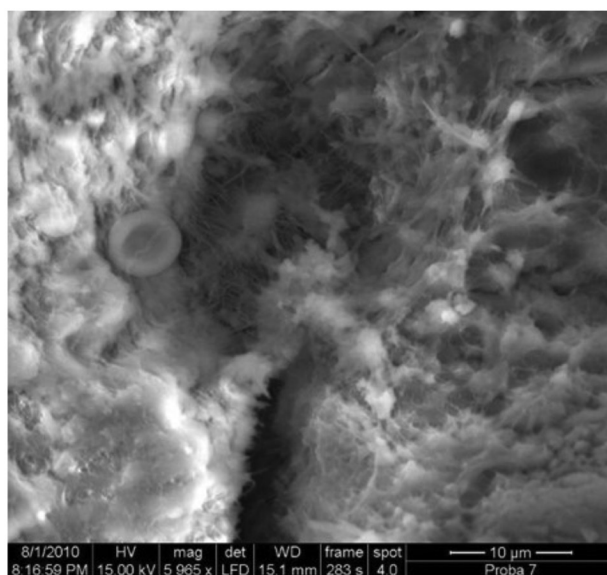


Figure S8. Biofilm including mixed microflora. Large amounts of glycocalyx, abundant mixture of coccoid bacteria and rods, x7,700.

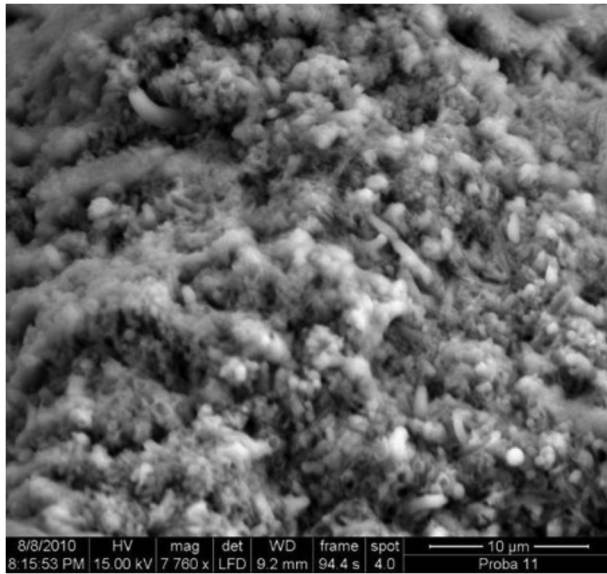


Figure S9. Nude cement at high magnification, void of biofilm or isolated bacteria, x7,900.

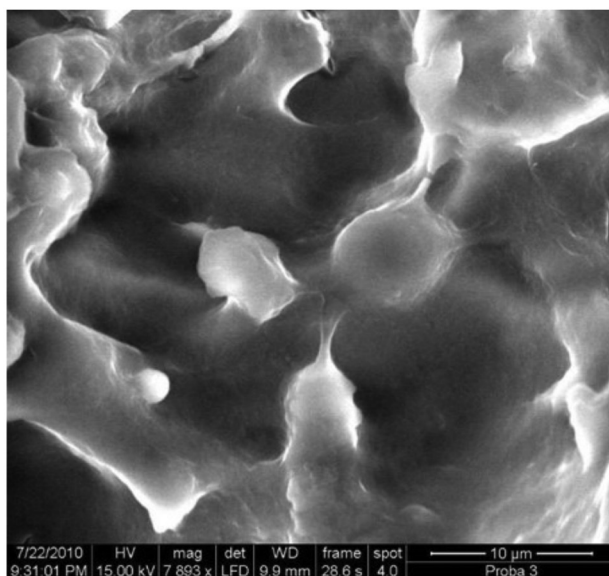


Figure S10. Deep cemental resorbtion with honeycomb aspect, x1,050.

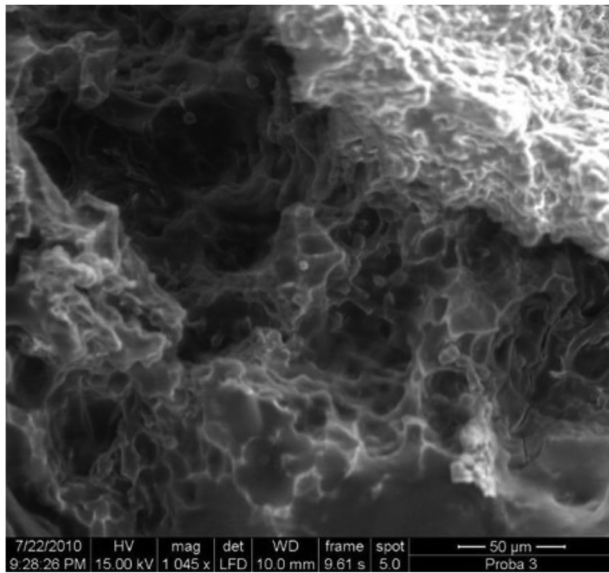


Figure S11. Laminary coagulum on the root surface. Note the shrunk erythrocytes included in large fibrin strands, x2,600.

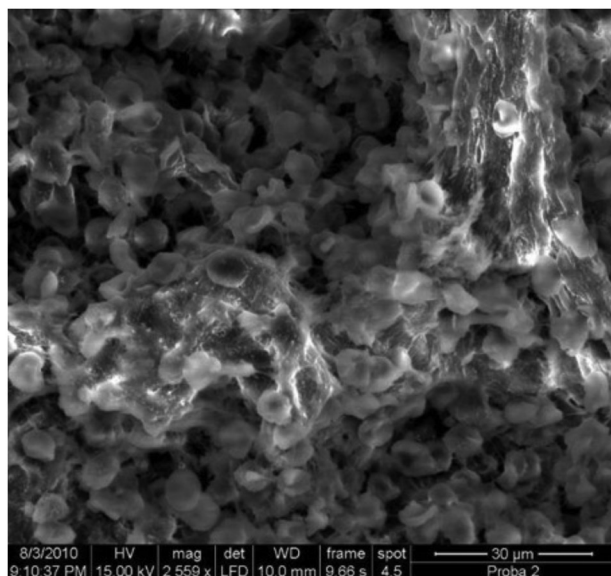


Figure S12. Microbial agglomeration in a cemental lacuna.
Note amounts of glycocalyx, cocci, rods, residual periodontal
fibers, debris, x7,000.

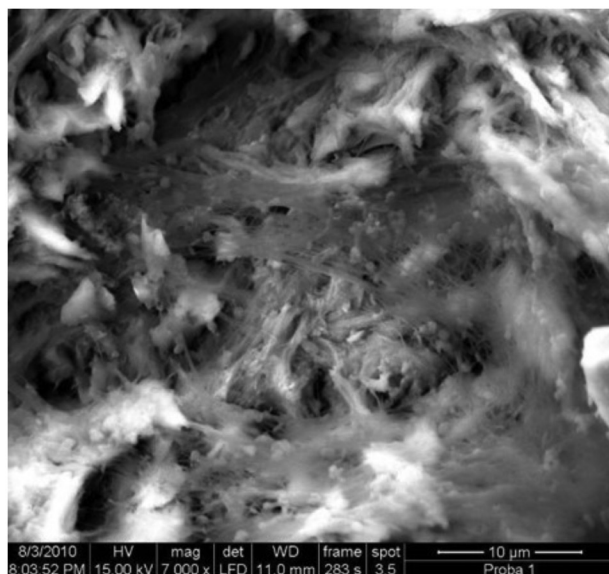


Figure S13. Abundant mixed flora bordering a cemental fissure:
Note a deep layer of rods, coccoid organisms (free or included
in glycocalyx), isolated superficial erythrocytes, x3,000.

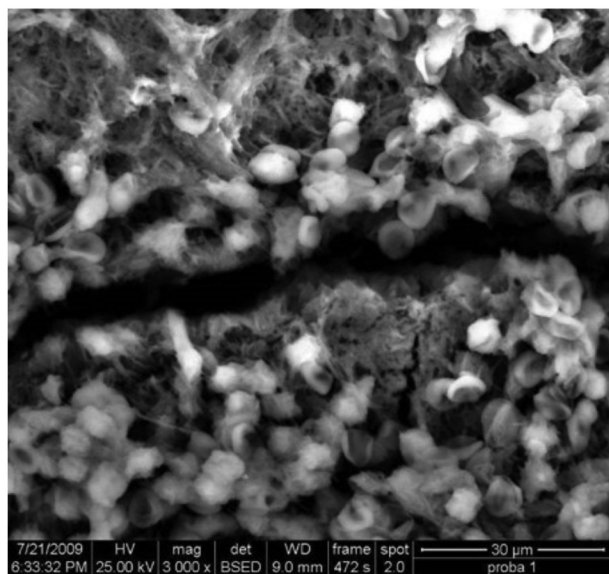


Figure S14. Laminary, curtain-like (blanket-like) glycocalyx, x1,500.

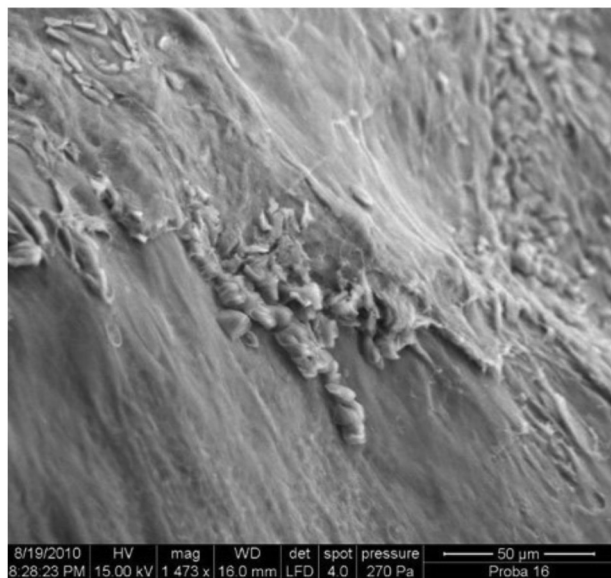
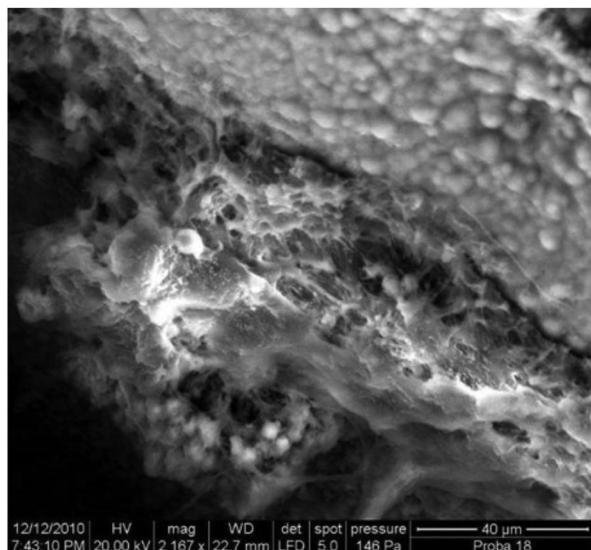


Figure S15. 'Fractured' biofilm layer on cement surface. (A) Note the filamentous glycocalyx adherences to the substrate, the intercommunicating voids, the bacteria on the surface ready to dispersion, the streamers, x2,200. (B) Note the compact aspect ('cloud-blanket'-like) of the biofilm, x15,500.

A



B

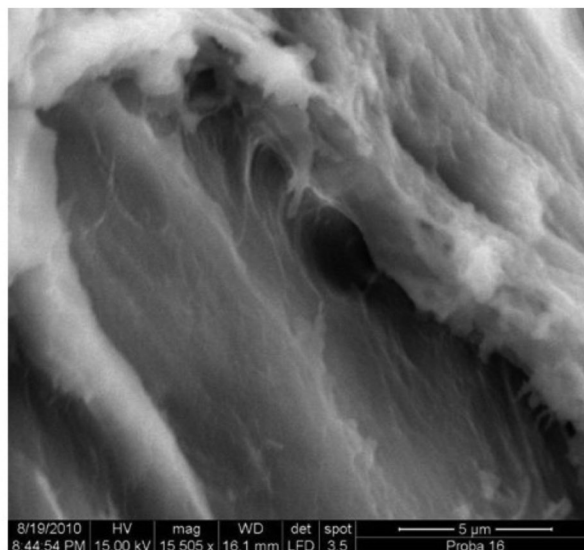


Figure S16. Compact, abundant ‘cloud blanket’-like biofilm layer, x7,500.

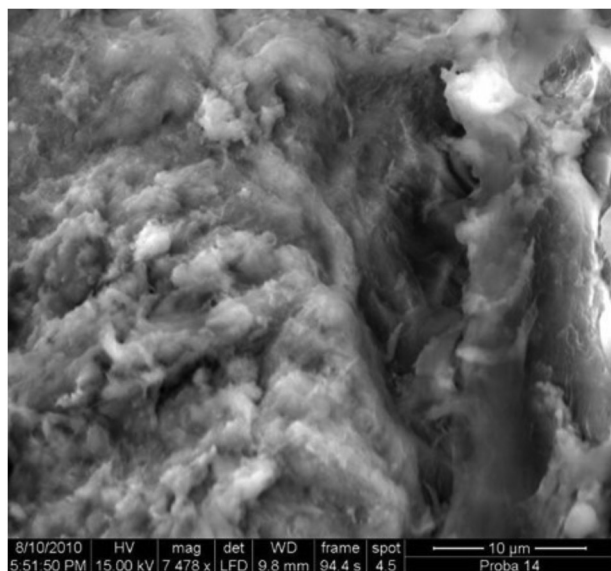


Figure S17. Pellicular glycocalyx stretched over previous bacterial agglomeration, x4,400.

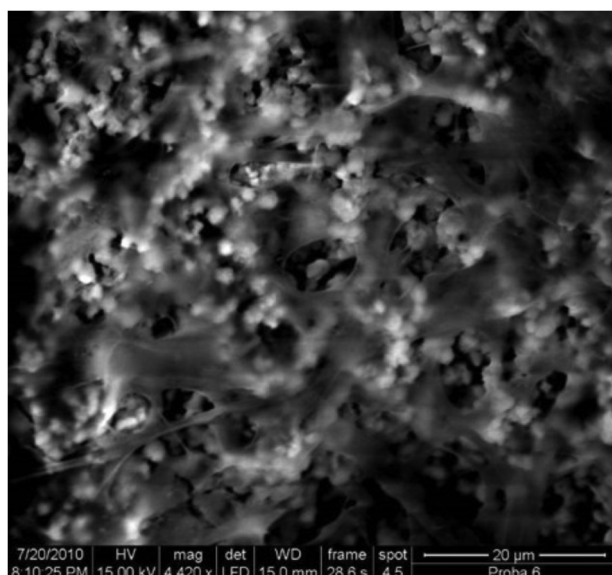


Figure S18. Root canal filling image. Note the master cone, the sealer pellicle, pristine and resorbed cemental areas in the near-foraminal zone, x200.

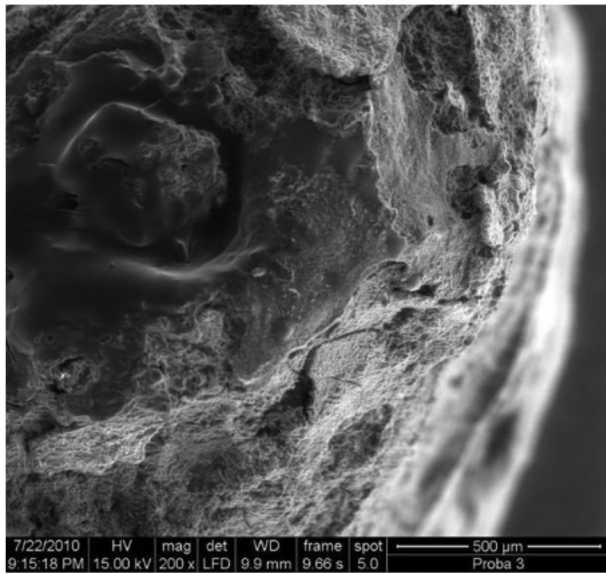
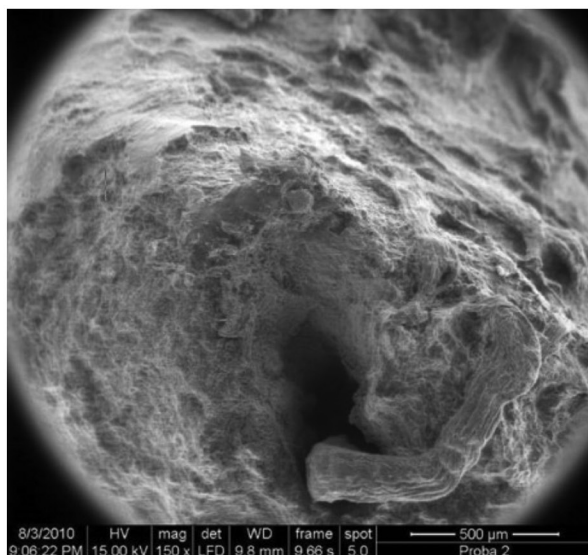


Figure S19. Mummified pulp, magnifications x150 (A) and x1,000 (B).

A



B

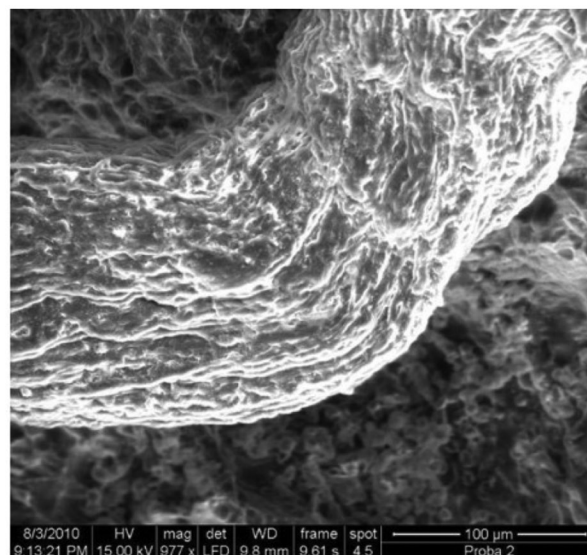


Figure S20. Residual pulpal fibers network inside the apical part of the root canal with included bacteria, x10,000.

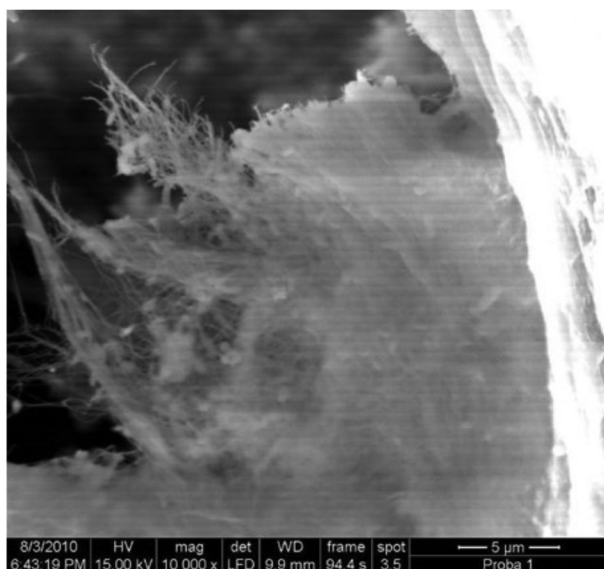


Figure S21. Apical foramen covered in calculus. Note the circular secondary resorptions on the calculus surface, x100.

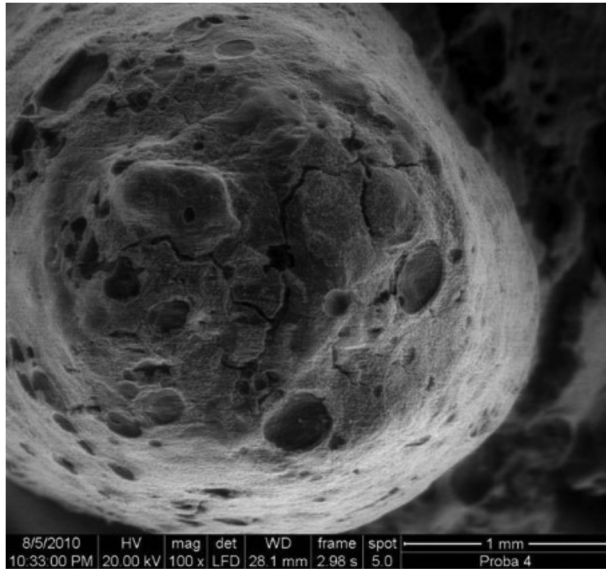


Table SI. Descriptive statistics for the investigated biofilm parameters.

Investigated zone	Variable	Min	Q(0.25)	Q(0.5)	Q(0.75)	Max	% present
Internal wall of the cemental cone	Established biofilm	0	0	0	0	2	23.81
	Glycocalix devoid of bacteria	0	0	0	0	1	14.29
	Isolated bacteria	0	0	0	0	1	14.29
	Cocci	0	0	0	1	2	38.10
	Rods	0	0	0	0	1	4.76
	Filaments	0	0	0	0	0	0
	Spyrils	0	0	0	0	0	0
	Naked cementum	0	1	1	1	1	76.19
	Resorptions	0	0	0	0	1	14.29
	Calculus	0	0	0	0	0	0
	Debris	0	0	0	1	1	33.33
Juxta-foraminal zone	Established biofilm	0	0	0	0	2	19.05
	Glycocalix devoid of bacteria	0	0	0	0	1	4.76
	Isolated bacteria	0	0	0	0	1	9.52
	Cocci	0	0	0	1	3	33.33
	Rods	0	0	0	0	2	9.52
	Filaments	0	0	0	0	0	0
	Spyrils	0	0	0	0	1	4.76
	Naked cementum	0	0	1	2	2	57.14
	Resorptions	0	0	0	2	3	42.86
	Calculus	0	0	0	0	1	4.76
	Debris	0	0	0	0	2	23.81
	Biofilm in cemental resorptions	0	0	0	0	2	4.76
Transition zone	Established biofilm	0	0	0	2	3	38.10
	Glycocalix devoid of bacteria	0	0	0	0	2	9.52
	Isolated bacteria	0	0	0	0	2	23.81
	Cocci	0	0	1	2	3	57.14
	Rods	0	0	0	0	2	14.29
	Filaments	0	0	0	0	2	23.81
	Spyrils	0	0	0	0	0	0
	Naked cementum	0	0	2	2	3	71.43
	Resorptions	0	0	0	1	2	28.57
	Calculus	0	0	0	1	2	28.57
	Debris	0	0	0	0	2	23.81
	Biofilm in cemental resorptions	0	0	0	0	3	14.29
Periodontal pocket zone	Established biofilm	0	0	1	2	3	52.38
	Glycocalix devoid of bacteria	0	0	0	0	1	14.29
	Isolated bacteria	0	0	0	0	1	14.29
	Cocci	0	0	1	2	3	61.90
	Rods	0	0	0	1	3	38.10
	Filaments	0	0	0	0	1	23.81
	Spyrils	0	0	0	0	0	0
	Naked cementum	0	0	1	1	3	52.38
	Resorptions	0	0	0	0	1	4.76
	Calculus	0	1	2	2	3	80.95
	Debris	0	0	1	1	2	57.14
	Biofilm in cemental resorptions	0	0	0	0	2	23.81