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DENTAL MEDICINE

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EVALUATION OF APICAL FORAMEN LOCALISATION OF MAXILLAR AND MANDIBULAR MOLARS

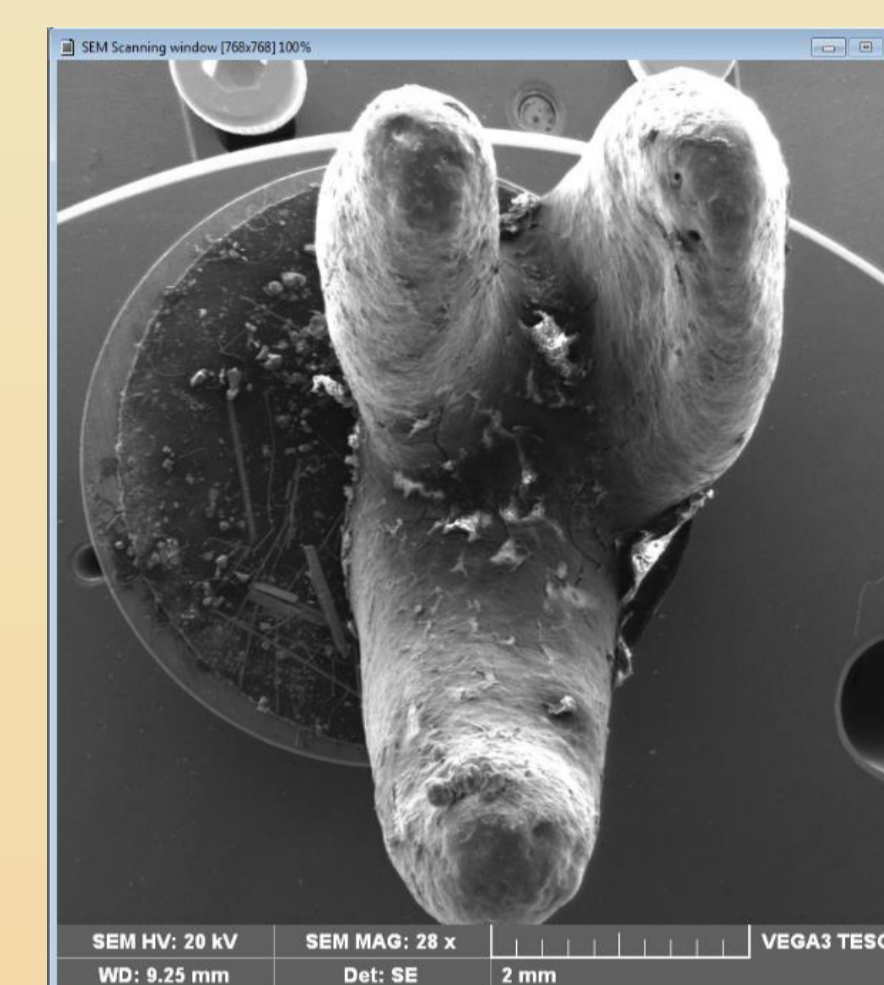
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INTRODUCTION: The success of nonsurgical root canal therapy is dependent on a thorough knowledge of the root and root canal morphology in order to locate all canals and properly clean, shape, and obturate the canal space in three dimensions.

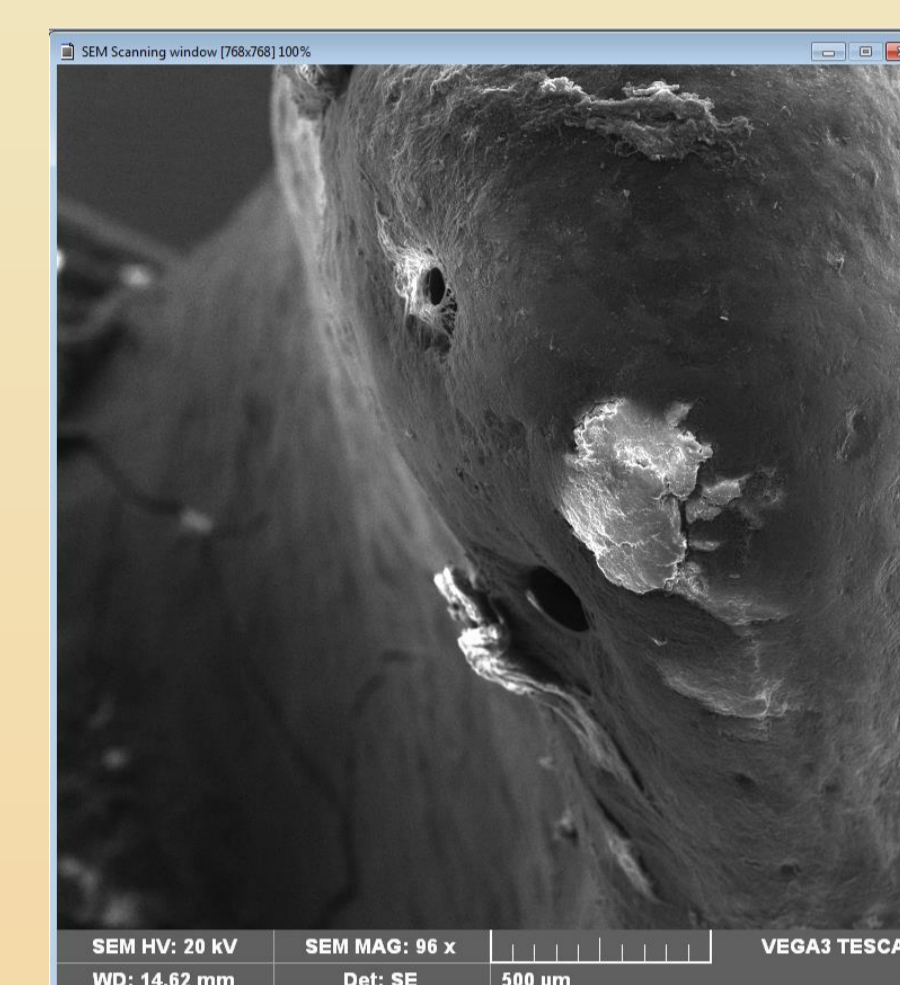
AIM: The aim in our study was to determine the morphologic shape and position of the root apex and the major foramen in maxillary and mandibular molars.

MATERIAL and METHOD: A total of 100 human upper and lower molars with completely formed apices were evaluated. Each root specimen was measured at each root apex by using a electronic microscopy and SEM analysis at magnification 20x - 200x. The anatomic parameters evaluated were the shapes of peripheral contours of major apical foramen (rounded, oval, asymmetric, semilunar) and the root apex (rounded, flat, beveled, elliptical). The location was classified as center, buccal, lingual, mesial, or distal surface for both root apex and the major apical foramen.

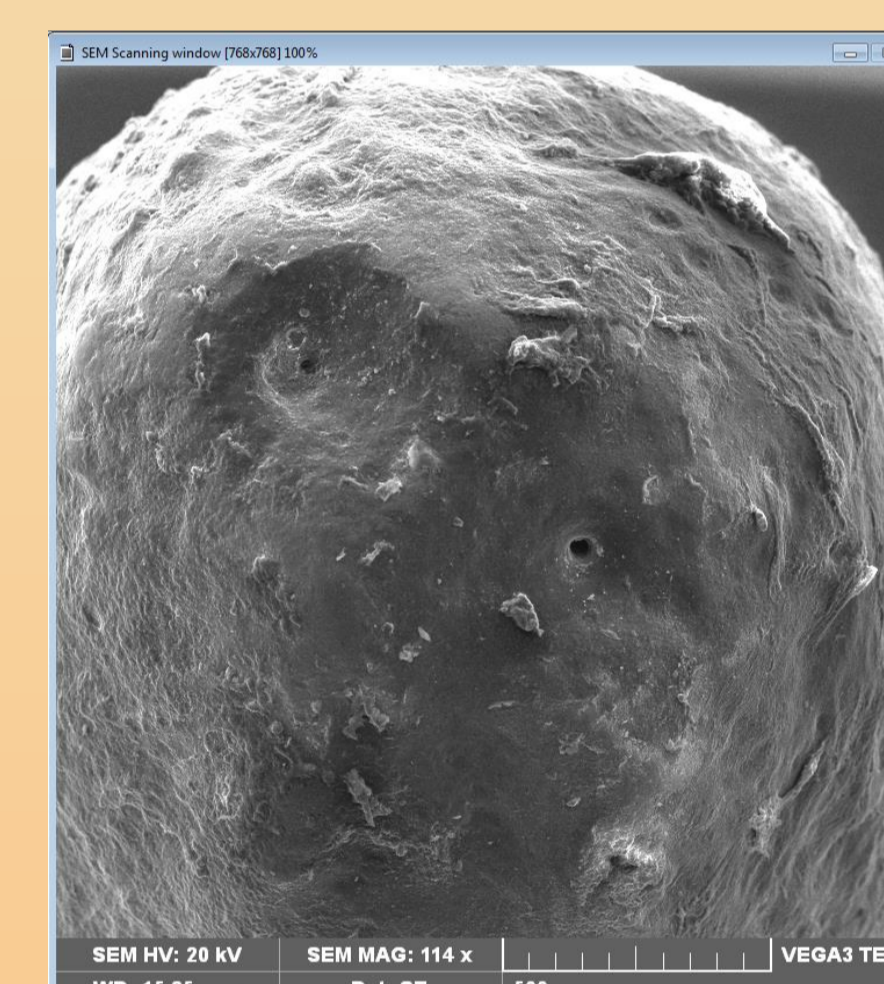
RESULTS: The results of the internal canal morphology revealed that a single canal was present in 77% of the teeth. Two or more canals were found in 23% of the teeth studied. A single apical foramen was found in 80% of the teeth, whereas 20% had two or more apical foramina.



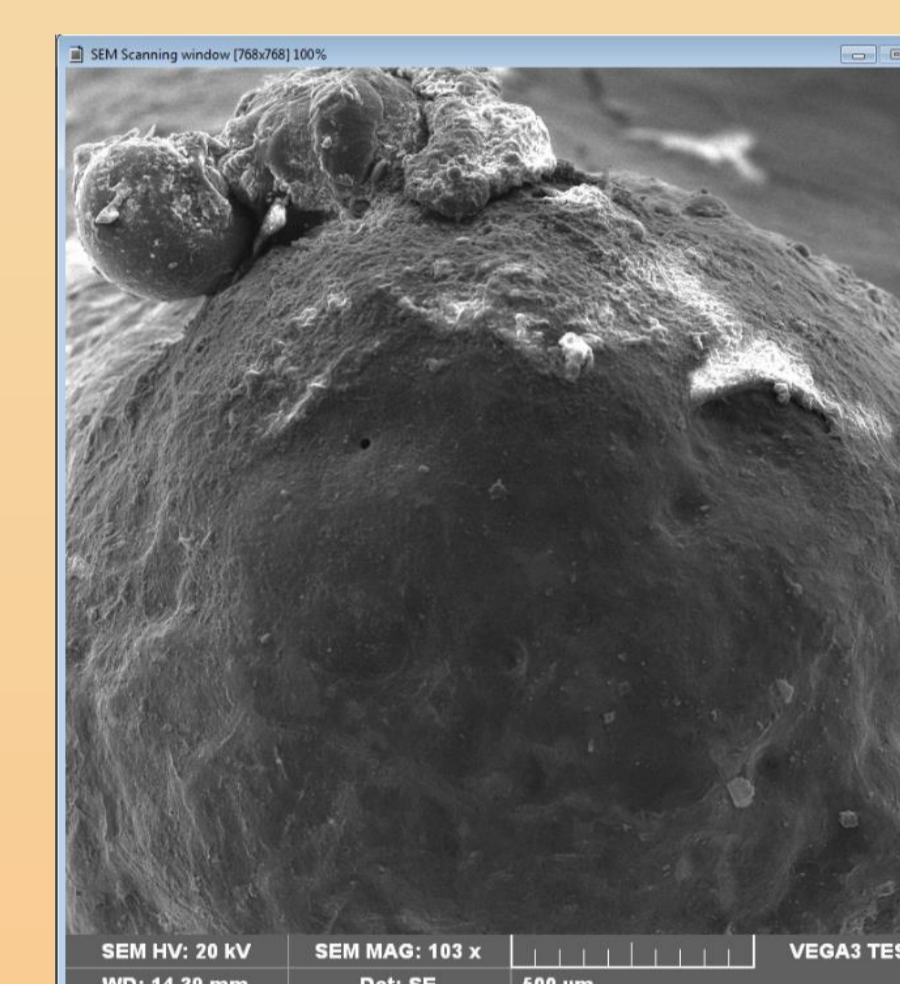
Maxillary first molar I6



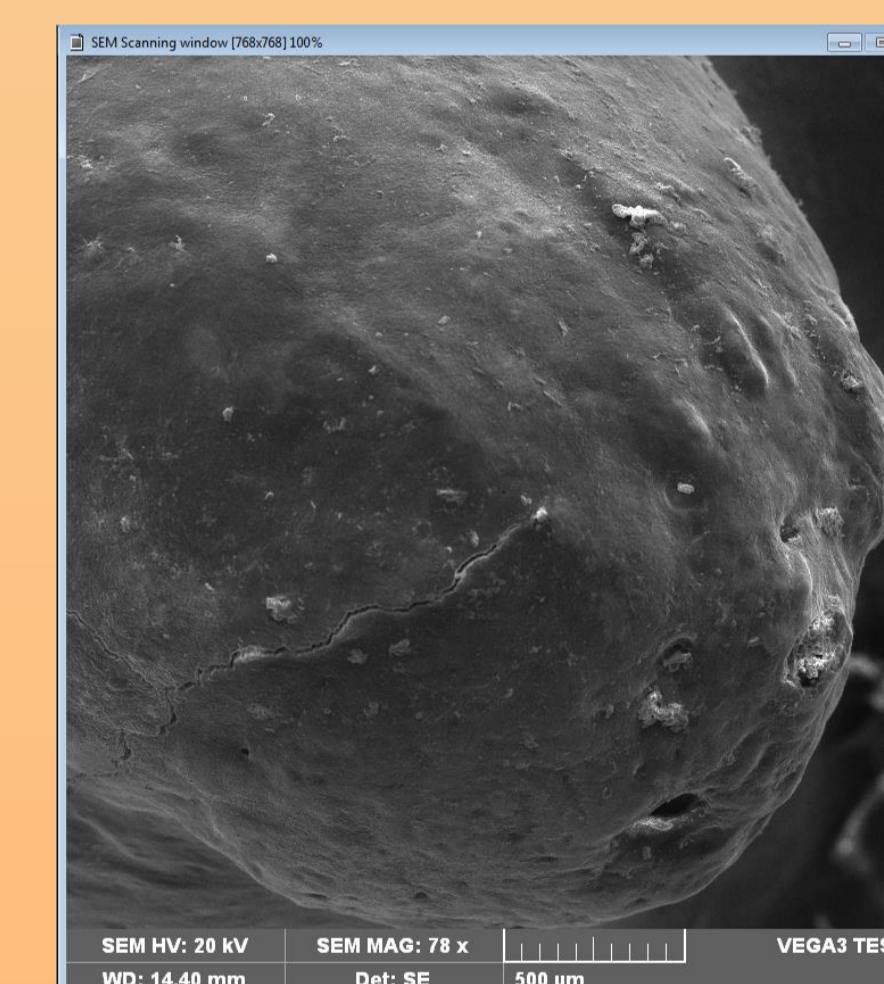
Maxillary first molar - buccomesial root



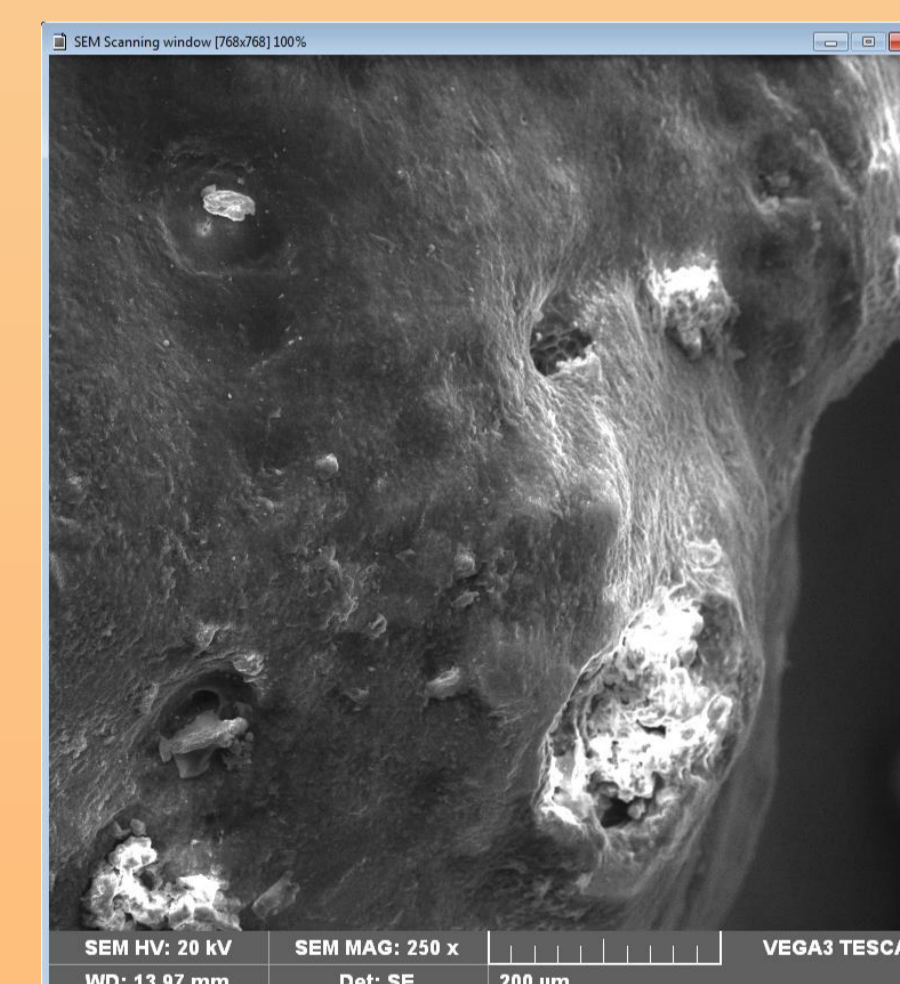
Maxillary first molar - buccodistal root



Maxillary first molar - palatal root



Mandibular third molar mesial root



Mandibular third molar distal root

MORPHOLOGY OF ROOT APEX

	ROUNDED	FLAT	BEVELED	ELIPTICAL	N
MAXILLARY MOLARS	15	14	6	15	50
MANDIBULAR MOLARS	20	8	4	18	50

MORPHOLOGY OF MAJOR FORAMEN

	ROUNDED	OVAL	ASIMETRIC	SEMILUNAR	N
MAXILLARY MOLARS	28	12	7	3	50
MANDIBULAR MOLARS	25	10	7	8	50

LOCATION OF THE ROOT APEX

	CENTRELIZED	BUCCAL	LINGUAL	MESIAL	DISTAL
MAXILLARY MOLARS	38	4	3	3	2
MANDIBULAR MOLARS	33	7	4	3	3

LOCATION OF MAJOR FORAMEN

	CENTRELIZED	BUCCAL	LINGUAL	MESIAL	DISTAL
MAXILLARY MOLARS	18	2	5	5	20
MANDIBULAR MOLARS	22	3	2	2	21

CONCLUSION: The most common morphology of the root apex the round shape, followed by oval and the most common shape of the major foramen was round, followed by oval. The root apex was most commonly located in the center in all teeth followed by distal and buccal locations.

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