| Ground Truth | Ensemble Prediction |

Grounding Caption

This localization caption provides multi-dimensional spatial analysis of anatomical structures and pathological findings for this panoramic dental X-ray image, including:

Teeth visibility with center points (total: 24):
[
{'point_2d': [638, 613], 'tooth_id': '45', 'score': 0.94},
{'point_2d': [1257, 620], 'tooth_id': '37', 'score': 0.94},
{'point_2d': [1074, 618], 'tooth_id': '35', 'score': 0.93},
{'point_2d': [453, 615], 'tooth_id': '47', 'score': 0.93},
{'point_2d': [1287, 450], 'tooth_id': '27', 'score': 0.92},
{'point_2d': [507, 439], 'tooth_id': '16', 'score': 0.92},
{'point_2d': [696, 427], 'tooth_id': '13', 'score': 0.91},
{'point_2d': [733, 638], 'tooth_id': '43', 'score': 0.91},
{'point_2d': [797, 614], 'tooth_id': '42', 'score': 0.91},
{'point_2d': [689, 617], 'tooth_id': '44', 'score': 0.9},
{'point_2d': [960, 447], 'tooth_id': '22', 'score': 0.9},
{'point_2d': [420, 444], 'tooth_id': '17', 'score': 0.9},
{'point_2d': [1021, 436], 'tooth_id': '23', 'score': 0.9},
{'point_2d': [902, 438], 'tooth_id': '21', 'score': 0.9},
{'point_2d': [1019, 622], 'tooth_id': '34', 'score': 0.89},
{'point_2d': [760, 441], 'tooth_id': '12', 'score': 0.89},
{'point_2d': [984, 638], 'tooth_id': '33', 'score': 0.89},
{'point_2d': [930, 619], 'tooth_id': '32', 'score': 0.88},
{'point_2d': [825, 439], 'tooth_id': '11', 'score': 0.87},
{'point_2d': [1121, 440], 'tooth_id': '25', 'score': 0.87},
{'point_2d': [1063, 448], 'tooth_id': '24', 'score': 0.85},
{'point_2d': [883, 613], 'tooth_id': '31', 'score': 0.84},
{'point_2d': [1198, 443], 'tooth_id': '26', 'score': 0.84},
{'point_2d': [842, 611], 'tooth_id': '41', 'score': 0.84}
]

Wisdom teeth detection (total: 0):
[
]

Dental Pathological Findings (total: 1):
[
{'box_2d': [1106, 550, 1193, 672], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.71, 'near_tooth': '35'}
]

Historical Treatments (total: 5):
[
{'box_2d': [616, 362, 683, 503], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.92, 'near_tooth': '13'},
{'box_2d': [551, 350, 619, 512], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.9, 'near_tooth': '16'},
{'box_2d': [616, 453, 683, 502], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.81, 'near_tooth': '13'},
{'box_2d': [552, 454, 618, 513], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.76, 'near_tooth': '16'},
{'box_2d': [525, 599, 554, 717], 'tooth_id': 'unknown', 'label': 'implant', 'score': 0.87, 'near_tooth': '47'}
]

Medical Report

TEETH-SPECIFIC OBSERVATIONS

1. **General Condition**

A total of 24 teeth are visualized within the panoramic field. No wisdom teeth (third molars) are present bilaterally. The dentition demonstrates standard anatomical positioning with no evidence of gross displacement.

2. **Pathological Findings**

A suspicious area consistent with a root stump is noted near tooth #35. The lesion appears as a radiopaque structure adjacent to the apical region, suggesting a retained fragment or incomplete resorption. Further diagnostic evaluation is indicated to confirm the nature of this finding.

3. **Historical Interventions**

- Root canal-treated (rc-treated) status is confirmed for teeth #13 and #16.

- A crown restoration is present on tooth #13.

- A crown restoration is also documented on tooth #16.

- A dental implant is identified near tooth #47, positioned within the edentulous space.

CLINICAL SUMMARY & RECOMMENDATIONS

1. **Priority Concerns**

- **Suspicious root stump near #35**: Requires clinical correlation and possible 3D imaging (e.g., CBCT) to assess for residual root fragments or pathologic changes.

- **Implant site near #47**: Monitor for peri-implant radiolucency or signs of inflammation during routine recall.

2. **Preventive Measures**

- Reinforce oral hygiene protocols for the posterior mandibular region to mitigate caries risk.

- Schedule periodic radiographic evaluation of the #35 area for progression monitoring.

3. **Follow-up Protocol**

- **Referral to endodontics/periodontics**: For definitive diagnosis and management of the #35 lesion.

- **6-month recall**: To assess stability of the #47 implant and overall restorative health.

- **Annual panoramic imaging**: To track long-term outcomes of the #35 area and implant integration.