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: 23):
[
{'point_2d': [628, 445], 'tooth_id': '15', 'score': 0.92},
{'point_2d': [897, 496], 'tooth_id': '22', 'score': 0.92},
{'point_2d': [1081, 667], 'tooth_id': '36', 'score': 0.91},
{'point_2d': [924, 680], 'tooth_id': '33', 'score': 0.91},
{'point_2d': [1018, 667], 'tooth_id': '35', 'score': 0.91},
{'point_2d': [800, 662], 'tooth_id': '42', 'score': 0.9},
{'point_2d': [957, 494], 'tooth_id': '23', 'score': 0.9},
{'point_2d': [450, 553], 'tooth_id': '48', 'score': 0.9},
{'point_2d': [759, 672], 'tooth_id': '43', 'score': 0.89},
{'point_2d': [974, 674], 'tooth_id': '34', 'score': 0.88},
{'point_2d': [566, 435], 'tooth_id': '16', 'score': 0.88},
{'point_2d': [1179, 497], 'tooth_id': '27', 'score': 0.88},
{'point_2d': [881, 672], 'tooth_id': '32', 'score': 0.87},
{'point_2d': [1003, 494], 'tooth_id': '24', 'score': 0.86},
{'point_2d': [720, 659], 'tooth_id': '44', 'score': 0.85},
{'point_2d': [1052, 490], 'tooth_id': '25', 'score': 0.84},
{'point_2d': [1104, 487], 'tooth_id': '26', 'score': 0.83},
{'point_2d': [713, 447], 'tooth_id': '13', 'score': 0.83},
{'point_2d': [849, 663], 'tooth_id': '31', 'score': 0.83},
{'point_2d': [796, 475], 'tooth_id': '11', 'score': 0.83},
{'point_2d': [755, 466], 'tooth_id': '12', 'score': 0.73},
{'point_2d': [673, 450], 'tooth_id': '14', 'score': 0.71},
{'point_2d': [823, 662], 'tooth_id': '41', 'score': 0.67}
]

Wisdom teeth detection (total: 1):
[
{'box_2d': [387, 481, 514, 624], 'tooth_id': '48', 'is_impacted': false, 'score': 0.9}
]

Dental Pathological Findings (total: 4):
[
{'box_2d': [1135, 333, 1267, 444], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.89, 'near_tooth': '27'},
{'box_2d': [1060, 723, 1090, 750], 'tooth_id': 'unknown', 'label': 'periapical radiolucency', 'score': 0.47, 'near_tooth': '36'},
{'box_2d': [1100, 709, 1140, 742], 'tooth_id': 'unknown', 'label': 'periapical radiolucency', 'score': 0.29, 'near_tooth': '36'},
{'box_2d': [1009, 724, 1040, 757], 'tooth_id': 'unknown', 'label': 'periapical radiolucency', 'score': 0.29, 'near_tooth': '35'}
]

Historical Treatments (total: 4):
[
{'box_2d': [739, 590, 774, 704], 'tooth_id': '43', 'label': 'rc-treated', 'score': 0.52},
{'box_2d': [503, 530, 713, 632], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.93, 'near_tooth': '44'},
{'box_2d': [471, 525, 586, 664], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.9, 'near_tooth': '48'},
{'box_2d': [625, 573, 711, 712], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.88, 'near_tooth': '44'}
]

Medical Report

Teeth-Specific Observations

1. **General Condition**

A total of 23 teeth were visualized with clear center points in both arches. Wisdom teeth showed reduced visibility; only the right mandibular wisdom tooth (#48) was clearly identified as non-impacted and fully erupted.

2. **Pathological Findings**

- Clear indication of an impacted tooth structure near #27.

- Suspicious areas of concern for periapical radiolucency noted near #36 (two distinct regions) and #35. These findings require corroboration with additional imaging.

3. **Historical Interventions**

- Presence of root canal-treated structures near #44 and #48.

- Definitive restoration material identified near #44.

Clinical Summary & Recommendations

1. **Priority Concerns**

- Impacted tooth near #27 necessitating evaluation for surgical extraction or orthodontic planning.

- Suspected periapical pathology near #36 and #35; potential endodontic compromise requires confirmation via CBCT.

2. **Preventive Measures**

- Reinforce periodontal care for #27 to mitigate secondary caries risk.

- Monitor #35 and #36 for radiographic progression with 3-month follow-up imaging.

3. **Follow-up Protocol**

- Immediate referral to an endodontist for assessment of periapical radiolucency near #36.

- 6-month recall for tracking impacted #27 and suspicious periapical lesions.

- Evaluate root canal-treated #44 for potential restoration replacement or apical surgery.