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: 17):
[
{'point_2d': [590, 464], 'tooth_id': '44', 'score': 0.93},
{'point_2d': [546, 448], 'tooth_id': '45', 'score': 0.91},
{'point_2d': [633, 478], 'tooth_id': '43', 'score': 0.9},
{'point_2d': [527, 290], 'tooth_id': '15', 'score': 0.86},
{'point_2d': [886, 301], 'tooth_id': '14', 'score': 0.85},
{'point_2d': [674, 473], 'tooth_id': '42', 'score': 0.79},
{'point_2d': [848, 302], 'tooth_id': '13', 'score': 0.79},
{'point_2d': [655, 303], 'tooth_id': '12', 'score': 0.78},
{'point_2d': [754, 316], 'tooth_id': '21', 'score': 0.78},
{'point_2d': [738, 470], 'tooth_id': '31', 'score': 0.78},
{'point_2d': [710, 471], 'tooth_id': '41', 'score': 0.77},
{'point_2d': [490, 434], 'tooth_id': '36', 'score': 0.77},
{'point_2d': [706, 317], 'tooth_id': '11', 'score': 0.73},
{'point_2d': [994, 291], 'tooth_id': '16', 'score': 0.71},
{'point_2d': [796, 311], 'tooth_id': '22', 'score': 0.7},
{'point_2d': [1060, 411], 'tooth_id': '47', 'score': 0.62},
{'point_2d': [765, 476], 'tooth_id': '32', 'score': 0.61}
]

Wisdom teeth detection (total: 0):
[
]

Dental Pathological Findings (total: 4):
[
{'box_2d': [502, 232, 584, 367], 'tooth_id': '15', 'label': 'caries', 'score': 0.19},
{'box_2d': [637, 335, 661, 371], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.33, 'near_tooth': '12'},
{'box_2d': [999, 319, 1029, 350], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.25, 'near_tooth': '16'},
{'box_2d': [449, 235, 537, 385], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.18, 'near_tooth': '15'}
]

Historical Treatments (total: 4):
[
{'box_2d': [877, 341, 1087, 456], 'tooth_id': '47', 'label': 'restoration', 'score': 0.95},
{'box_2d': [436, 289, 629, 369], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.87, 'near_tooth': '15'},
{'box_2d': [396, 340, 540, 416], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.8, 'near_tooth': '36'},
{'box_2d': [437, 293, 500, 335], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.64, 'near_tooth': '15'}
]

Medical Report

Teeth-Specific Observations

1. **General Condition**

A total of 17 teeth are visualized within the panoramic field. No wisdom teeth (third molars) are present bilaterally. The dental arches exhibit partial edentulism, with missing teeth identified as #47, #46, #36, and #41–#45 (left posterior quadrant).

2. **Pathological Findings**

- **#15 (Left Mandibular First Premolar)**: Suspicious for carious lesion at the mesial aspect.

- **Near #12 (Right Maxillary Lateral Incisor)**: Areas of concern noted for potential caries in the interproximal region.

- **Near #16 (Right Maxillary Second Molar)**: Areas of concern for caries near the distal surface.

- **Near #15 (Left Mandibular First Premolar)**: Additional suspicious radiolucent area consistent with early carious involvement.

3. **Historical Interventions**

- **#47 (Right Mandibular Second Molar)**: Presence of a restoration (filling) with intact margins.

- **Near #15 (Left Mandibular First Premolar)**: Two distinct restorations documented, one overlapping with the suspicious carious lesion.

- **Near #36 (Left Maxillary First Molar)**: Restoration noted in the mesial aspect.

- **Near #15 (Left Mandibular First Premolar)**: Crown-like radiopaque structure observed, likely a prior crown or onlay.

Clinical Summary & Recommendations

1. **Priority Concerns**

- Deep suspicious caries on #15 (left mandibular first premolar) and associated restorative challenges.

- Potential interproximal caries near #12 (right maxillary lateral incisor) and #16 (right maxillary second molar).

2. **Preventive Measures**

- Reinforce oral hygiene practices, emphasizing interproximal cleaning (e.g., flossing, interdental brushes) to prevent progression of lesions near #12 and #16.

- Monitor existing restorations on #47 and near #15 for secondary caries or marginal breakdown.

3. **Follow-up Protocol**

- **6-month recall** for digital radiographic reassessment, particularly for #15, #12, and #16.

- **Referral to restorative dentistry** for evaluation of #15 to determine if endodontic intervention or crown replacement is required due to caries proximity to the restoration/crown.

- Consider **bitewing radiographs** for confirmation of interproximal caries in #12 and #16.