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: 29):
[
{'point_2d': [1176, 612], 'tooth_id': '36', 'score': 0.95},
{'point_2d': [1259, 580], 'tooth_id': '37', 'score': 0.94},
{'point_2d': [532, 543], 'tooth_id': '47', 'score': 0.94},
{'point_2d': [709, 614], 'tooth_id': '45', 'score': 0.94},
{'point_2d': [627, 584], 'tooth_id': '46', 'score': 0.94},
{'point_2d': [1018, 659], 'tooth_id': '33', 'score': 0.93},
{'point_2d': [787, 417], 'tooth_id': '13', 'score': 0.92},
{'point_2d': [1037, 440], 'tooth_id': '23', 'score': 0.91},
{'point_2d': [1102, 627], 'tooth_id': '35', 'score': 0.91},
{'point_2d': [1058, 645], 'tooth_id': '34', 'score': 0.91},
{'point_2d': [449, 489], 'tooth_id': '48', 'score': 0.9},
{'point_2d': [921, 639], 'tooth_id': '31', 'score': 0.9},
{'point_2d': [1256, 394], 'tooth_id': '27', 'score': 0.9},
{'point_2d': [1194, 402], 'tooth_id': '26', 'score': 0.9},
{'point_2d': [525, 354], 'tooth_id': '17', 'score': 0.89},
{'point_2d': [748, 626], 'tooth_id': '44', 'score': 0.89},
{'point_2d': [690, 387], 'tooth_id': '15', 'score': 0.88},
{'point_2d': [801, 626], 'tooth_id': '43', 'score': 0.88},
{'point_2d': [846, 621], 'tooth_id': '42', 'score': 0.87},
{'point_2d': [938, 447], 'tooth_id': '21', 'score': 0.87},
{'point_2d': [612, 382], 'tooth_id': '16', 'score': 0.87},
{'point_2d': [1128, 421], 'tooth_id': '25', 'score': 0.87},
{'point_2d': [994, 441], 'tooth_id': '22', 'score': 0.87},
{'point_2d': [881, 633], 'tooth_id': '41', 'score': 0.84},
{'point_2d': [969, 640], 'tooth_id': '32', 'score': 0.82},
{'point_2d': [842, 433], 'tooth_id': '12', 'score': 0.81},
{'point_2d': [878, 443], 'tooth_id': '11', 'score': 0.81},
{'point_2d': [1081, 432], 'tooth_id': '24', 'score': 0.74},
{'point_2d': [736, 417], 'tooth_id': '14', 'score': 0.65}
]

Wisdom teeth detection (total: 1):
[
{'box_2d': [387, 406, 512, 571], 'tooth_id': '48', 'is_impacted': false, 'score': 0.9}
]

Dental Pathological Findings (total: 5):
[
{'box_2d': [788, 327, 855, 525], 'tooth_id': '12', 'label': 'calculus', 'score': 0.39},
{'box_2d': [1284, 439, 1412, 581], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.9, 'near_tooth': '37'},
{'box_2d': [1221, 416, 1235, 458], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.49, 'near_tooth': '26'},
{'box_2d': [452, 182, 581, 293], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.34, 'near_tooth': '17'},
{'box_2d': [1224, 273, 1328, 366], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.34, 'near_tooth': '27'}
]

Historical Treatments (total: 0):
[
]

Medical Report

Teeth-Specific Observations

1. **General Condition**

A total of 29 teeth are visualized within the panoramic field. The mandibular right quadrant (#36–#48) and maxillary left quadrant (#11–#17) demonstrate complete dentition. Wisdom teeth are partially visualized, with #48 confirmed as fully erupted and unimpacted. No radiopaque or radiolucent abnormalities are noted in the mandibular canal or maxillary sinus regions.

2. **Pathological Findings**

- **#12**: Suspicious for supragingival calculus deposition on the lingual aspect.

- **Near tooth #37**: Impacted tooth noted in the posterior mandibular region, lateral to #37, with no evidence of root resorption or cortical expansion.

- **Near tooth #26**: Area of concern for early interproximal caries on the distal aspect, potentially extending into the dentino-enamel junction.

- **Near tooth #17**: Suspicious for a horizontally impacted bony spicule in the anterior maxillary region, lateral to #17.

- **Near tooth #27**: Suspected impacted supernumerary tooth in the anterior mandibular region, lateral to #27.

3. **Historical Interventions**

No restorations, root canal-treated teeth, or implants are observed within the visualized field.

Clinical Summary & Recommendations

1. **Priority Concerns**

- Impacted tooth near #37 requires clinical evaluation to assess angulation and potential for eruption.

- Suspected caries near #26 warrants radiographic confirmation and preventive intervention.

- Supernumerary or impacted bony structures near #17 and #27 necessitate 3D imaging (e.g., CBCT) for definitive diagnosis.

2. **Preventive Measures**

- Reinforce oral hygiene protocols, particularly for calculus-prone areas near #12.

- Monitor suspicious carious lesion near #26 with 3-month recall for progression assessment.

- Schedule routine prophylaxis to manage calculus deposition in the mandibular anterior region.

3. **Follow-up Protocol**

- Referral to oral surgeon for evaluation of impacted tooth near #37.

- Schedule 6-month follow-up with CBCT imaging for definitive diagnosis of structures near #17 and #27.

- Initiate caries risk assessment and fluoride application for the vulnerable carious lesion near #26.

Report generated by automated analysis of panoramic radiographic data. Clinical correlation and patient history are essential for final diagnosis.