

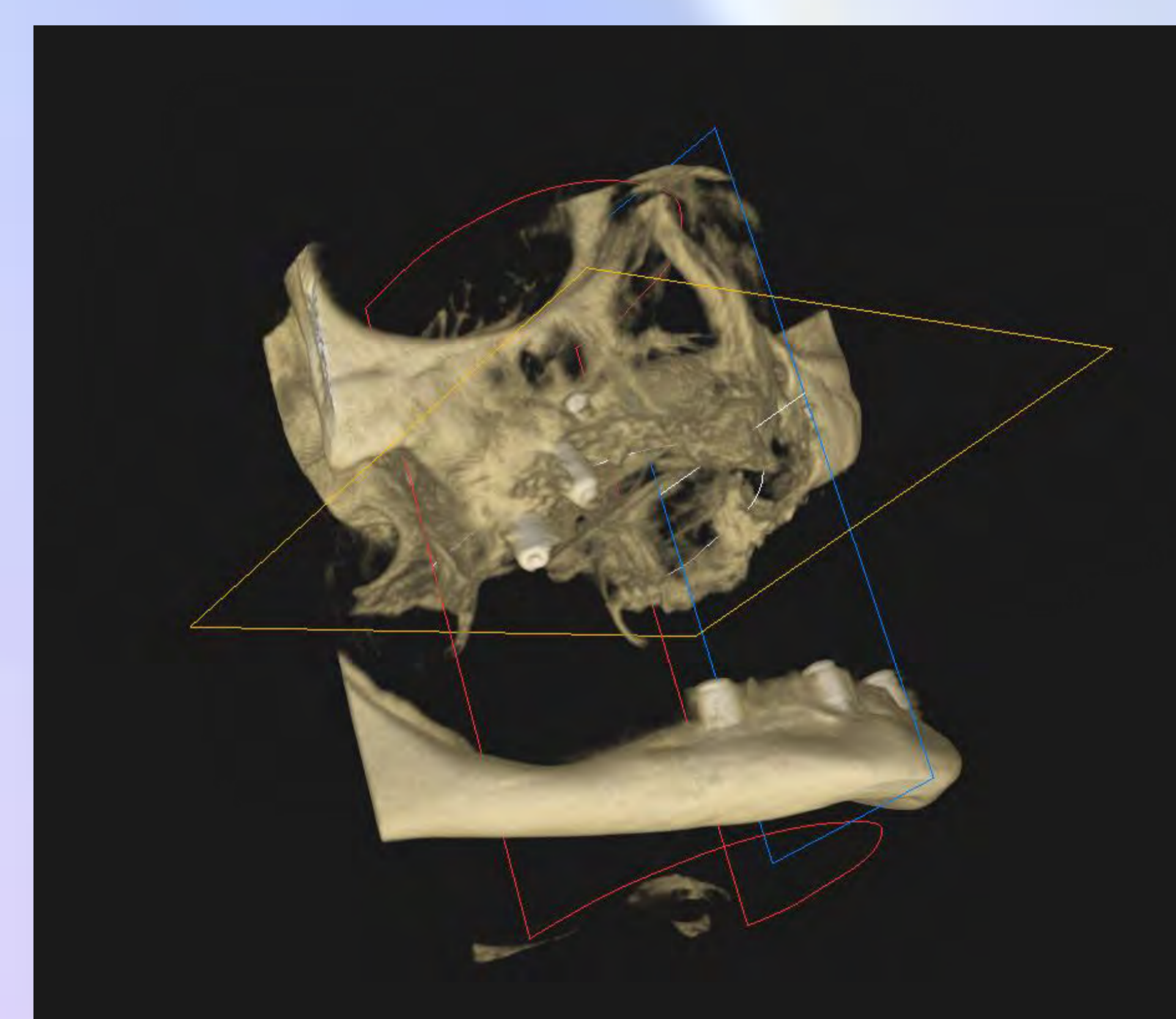
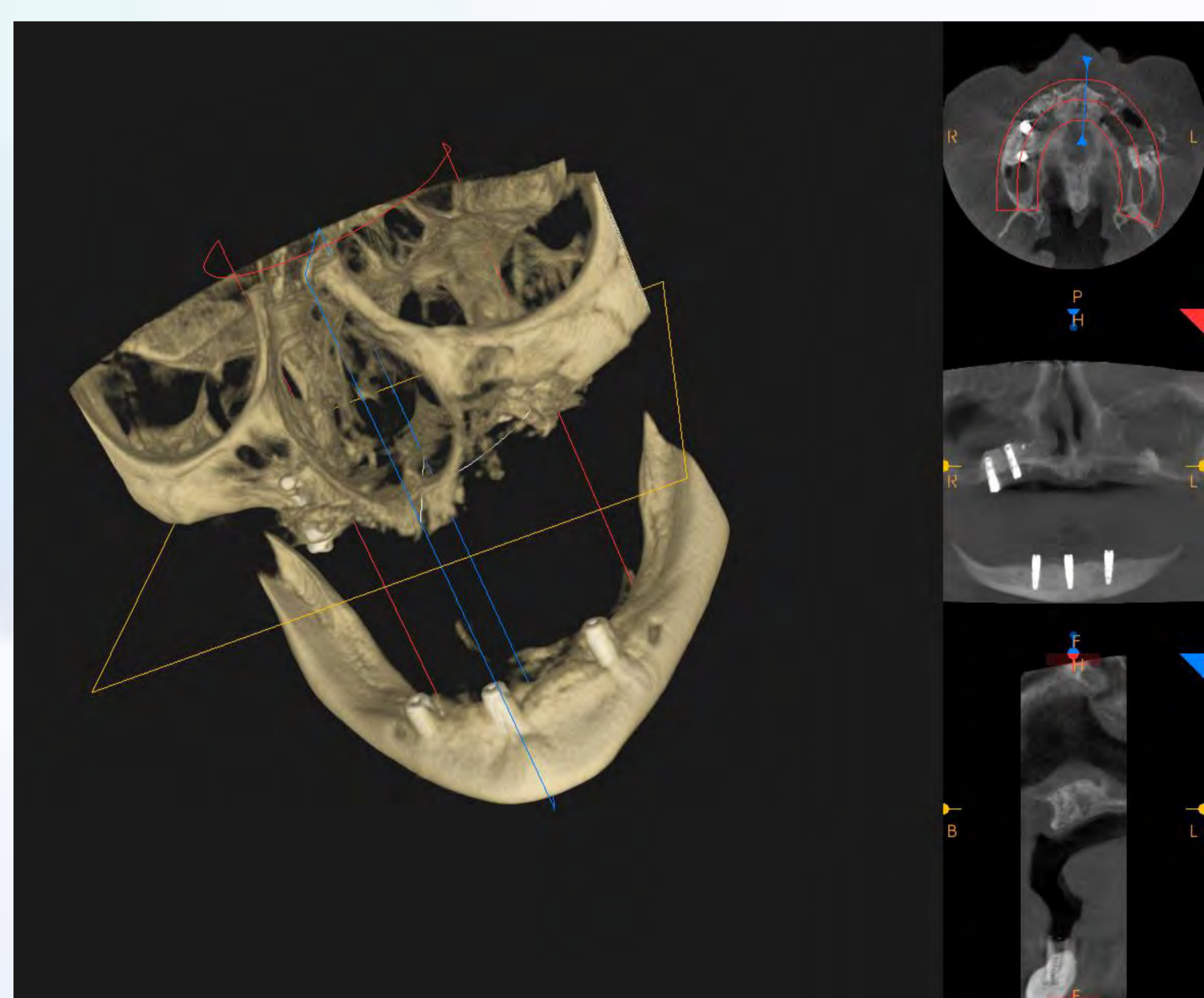
Term Bisphosphonate Related Osteonecrosis of the Jaws (BRONJ) was changed in 2014 by American Association of Oral and Maxillofacial Surgeons (AAOMS) to the term Medication Related Osteonecrosis of the Jaws (MRONJ) due to increasing number of necrosis associated with antiresorptive and antiangiogenic medicaments different from bisphosphonates.

This condition can be diagnosed in a patient who present following characteristics:

1. Current or previous treatment with antiresorptive or antiangiogenic agents.
2. Exposed bone or fistula penetrating through bone that had persisted for more than eight weeks.
3. No history of radiation therapy to the jaws or obvious metastatic disease to the jaws.

Medications associated with MRONJ:

1. antiresorptive agents like intravenous (more common) or oral bisphosphonates and RANK ligand inhibitor (denosumab)
2. antiangiogenic agents (tyrosine kinase inhibitors and monoclonal antibody targeting VEGF).



Female patient had implant placement in maxilla (23, 24, 25) and mandible (34, 41, 44) in 2006 and in 2009 again in maxilla (17,15) with subsequently disintegration of implants 23, 24. In 2010 open sinuslift (BioOss) and reimplantation in position 24, 25 took place. In 2012 patient was admitted Zolendronic Acid and Pamitor (Bisphosphonates) for the treatment of breast carcinoma related bone metastases. Afterwards disintegration of implants 23, 24, 25 occurred in 2014. Bone augmentation in region 25 few months later was performed and disintegration of implants 15, 17 happened in 2015. In september 2015 66-years old patient was referred to our clinic. Clinical examination revealed exposed, necrotic bone with evidence of infection bilaterally in the canine fossa area, communication with both maxillary sinuses and severe fetor orae. Treatment plan included: surgical procedure under general anaesthesia, debridement with resection of necrotic parts of bone in combination with antibiotic therapy. Wounds were left open for second intention healing under sterile gauze soaked with Metronidazol and after 2 days under immediate prostheses. At the present moment healthy mucosa, with no signs of inflammation, covers previously exposed bone. There are no pain and other symptoms.

Staging and treatment guideline: **Patients at risk**- no symptoms but had i.v. or p.o. antiresorptive or antiangiogenic therapy. **Stage 0**- no exposed bone but symptoms like odontalgia or pain without clinical/radiological reasons. **Stage 1**- exposed or necrotic bone in asymptomatic patients, with no evidence of infection, treatment: antiinflammatory irrigations, avoid surgical intervention. **Stage 2**- exposed and/or necrotic bone with evidence of infection in symptomatic patients, treatment: antiinflammatory irrigations, antibiotic and analgetic therapy, consider simple surgical revision of engaged area. **Stage 3**- exposed and/or necrotic bone with evidence of infection in symptomatic patients with destruction progressing to adjacent areas, treatment:surgical debridement, resection with antibiotic and analgetic therapy

It is recommended to delay surgical intervention as long as possible. Despite conservative treatment sometimes surgery may be needed because of proceeding necrosis. We should regard it more like palliative treatment, the one that is for slowing down the progression of disease, relieving the pain and improving the quality of life than curing the patient and bringing him to incipient condition.

