

# Management of osteoradionecrosis

# Aim

- ▶ To control frank infection
- ▶ Antibiotics Penicillin plus metronidazole or clindamycin
- ▶ Supportive therapy with fluids Pulsating irrigation device can be used. High pressure should not be used debris might be forced deeply into tissues
- ▶ Exposed bone can be mechanically debrided and smoothed with round burs and covered with a pack saturated with zinc peroxide and neomycin

- ▶ local irrigation (saline solution, NaHCO<sub>3</sub>, or chlorhexidine), systemic antibiotics in acute infectious episodes, avoidance of irritants and oral hygiene instruction.
- ▶ Simple management refers to the gentle removal of sequestra in sequestering lesions Had 48% success rates

- ▶ Treatment of small areas with drilling multiple holes into vital bone is recommended by Hahn and Cargill (1967) to encourage sequestration.
- ▶ Daland (1949) advised electro coagulation of exposed bone to expedite sequestration and drainage of subcutaneous abscesses to prevent sloughing of skin.

# HYPER BARIC OXYGEN THERAPY

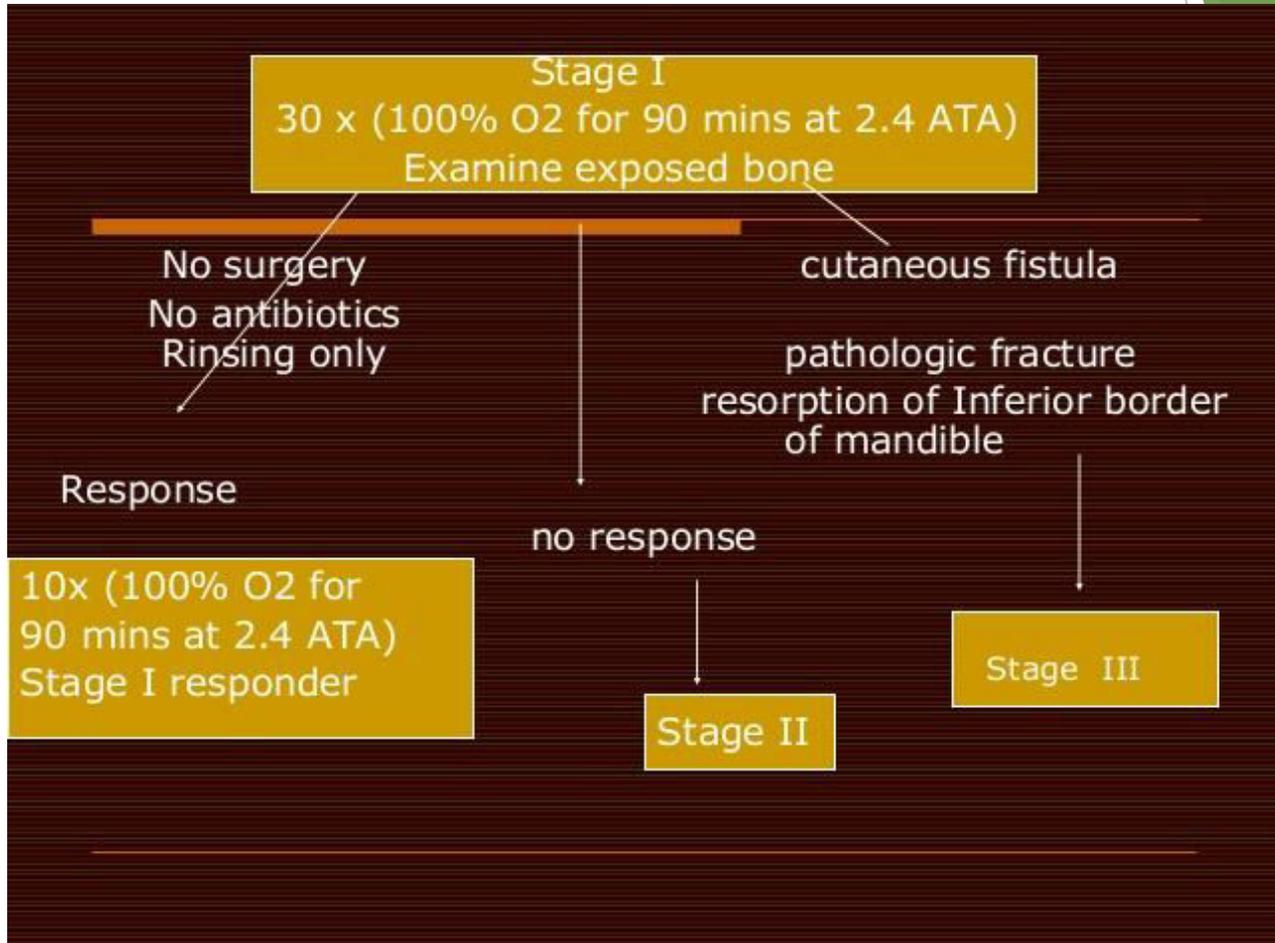
## DEFINITION

Short term -100% oxygen inhalation therapy at a pressure greater than that of sea level. The pressure is usually about 2.4 absolute atmospheres or ATA.

- ▶ Greenwood and Gilchrist (1973) were the first to report beneficial effects of HBO on wound healing in post RT.

- ▶ HBO inhibits inflammation through direct bactericidal effects on anaerobes due to increased production of free radical and toxic products □ HBO enhances phagocytic killing by WBC (Parl 1994)

- ▶ Protocol of hyperbaric oxygen for elective surgery.
- ▶ 20 sessions of hyperbaric oxygen prior to elective surgery, followed by 10 sessions after surgery
- ▶ 100% oxygen at 2.4 atmospheric pressure or ATA for 90 treatment minutes □ single person chambers 120 treatment minutes



Stage I  
30 x (100% O2 for 90 mins at 2.4 ATA)  
Examine exposed bone

No surgery  
No antibiotics  
Rinsing only

Response

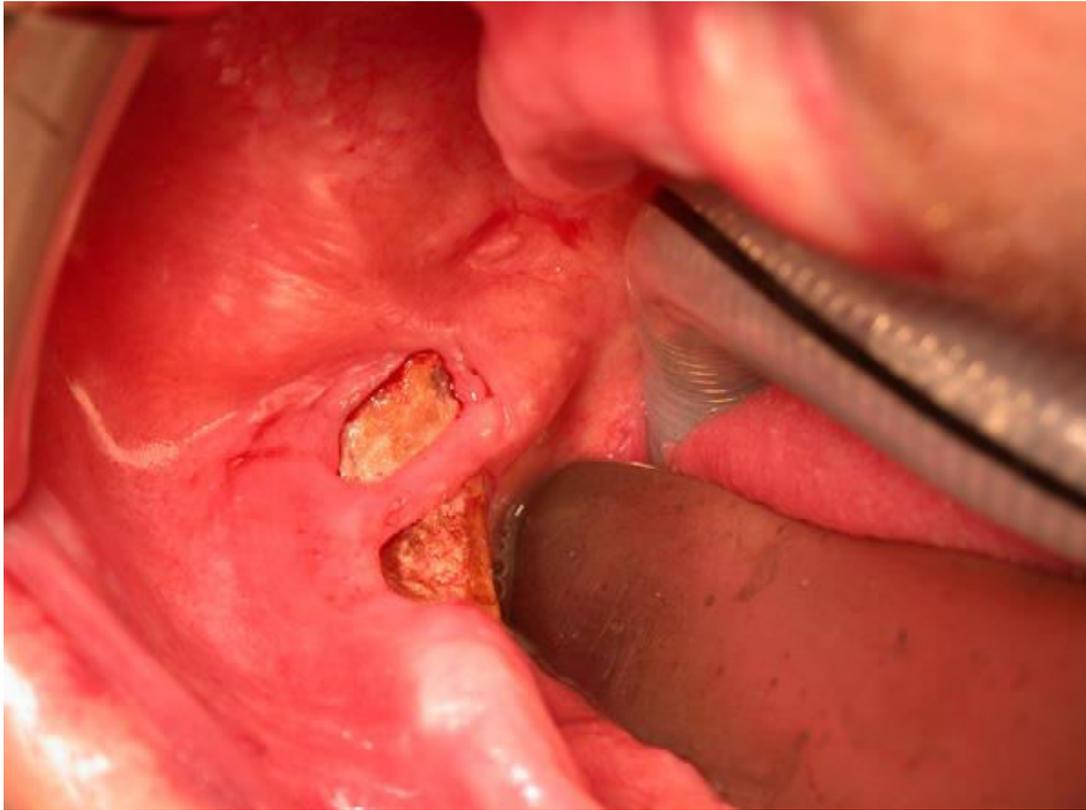
10x (100% O2 for  
90 mins at 2.4 ATA)  
Stage I responder

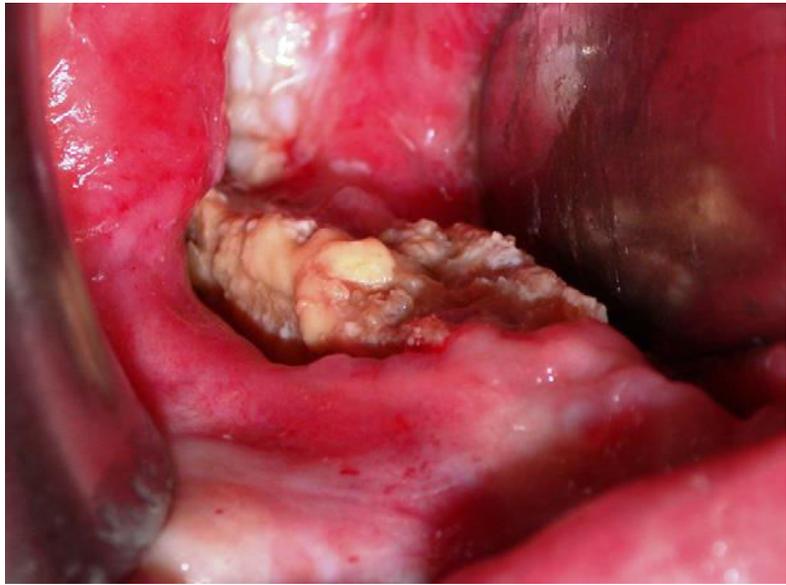
no response

Stage II

cutaneous fistula  
pathologic fracture  
resorption of Inferior border  
of mandible

Stage III





## Stage II

Surgery maintain inferior border

10x (100% O<sub>2</sub> for 90 mins at 2.4 ATA)

Response

no response

## Stage II responder

Healing with out  
exposed bone

No HBO Required

## stage III

Excision of nonviable bone  
Fixation of mandibular  
segments 10x (100% O<sub>2</sub> for  
90 mins at 2.4 ATA)

Reconstruction  
after three  
months



# Absolute contraindication

- ▶ Optic neuritis - exacerbation of retinal inflammation and hyperemia
- ▶ Immunosuppressive disorders- reports of viral encephalitis

## Relative contraindication

Chronic obstructive pulmonary disease Bullous lung change and significant CO<sub>2</sub> retention

Claustrophobia.

Acute respiratory infections

Surgery induced Eustachian tube dysfunction