Introduction
Osteomyelitis is inflammation of bone and bone marrow that develops in jaws usually after chronic infection. It is rarely seen in healthy individuals. Patients with chronic infections in jaws where inflammatory response is impaired are prone to develop this condition. Therefore there is high risk of developing osteomyelitis in these immuno-compromised patients. Patients with chronic disease are prone to bacterial infection and succumb to death due to septicemia and pneumonia. In maxillofacial region so far there is only one case reported in literature about osteomyelitis as post extraction complication in alcoholic. A case of osteomyelitis of mandible in chronic alcoholic is discussed with clinical features, investigations and treatment along with role of alcohol in immuno-suppression. In the present case alcohol induced immuno-suppression was predisposing factor in development of osteomyelitis. This case report highlights how alcohol has profound modulatory effect on immune system.

Case Report
A 70 year old man who was admitted under medicine unit for treatment of alcoholic hepatitis was referred to dept. of Oral & Maxillofacial Surgery with complaint of swelling over left side body of mandible. Patient had recently undergone dental extractions. He was apparently alright for two months after dental extraction, when he developed pain and swelling in the lower jaw on the left side. Personal history revealed moderate use of alcohol every day. Family history was not contributory. On examination, the patient was febrile, but pulse rate & blood pressure were within normal limits. He had icterus and localized extraoral swelling on left side of body of mandible. There was limitation of mouth opening and submandibular lymphadenopathy. Patient also had numbness of lower lip on left side. Intra oral examination revealed unhealed extraction sockets in the molar area with vestibular swelling extending from canine to molar area and pus exuding from the sockets.

Investigations
Pus was sent for bacteriological examination and culture and sensitivity.

Thorough detail laboratory workup was done like complete hemogram, ESR, blood glucose level, HIV and HBsAG along with liver function tests. The values of ESR, WBC count, serum bilirubin, SGOT and SGPT were raised and the rest investigations were within normal limits.

Histopathology picture was suggestive of necrotic bone and areas of chronic inflammation.

Key words: Osteomyelitis, Alcoholics, Immuno-suppression
Radiologic Examination
Panoramic radiography revealed patchy areas of bone destruction and presence of sequestra (Fig. 2). The primary diagnosis was made as osteomyelitis of mandible based on clinico-radiological presentation.

Surgical Intervention
The results of culture and sensitive reports gave right choice of specific antibiotic in the form of Inj. Taxim 1 gm 12 hourly and Inj. Metrogyl 500 mg. 8 hourly. Patient was posted for sequestrectomy and saucerization under General Anaesthesia. The antibiotics were continued for two weeks post operatively. After thorough debridement sequestra and granulation tissue were sent for histopathologic examination, and the wound was allowed to heal with secondary intention.

Discussion
Excessive alcohol consumption predisposes the host to wide range of infections particularly pulmonary infection. In maxillofacial region osteomyelitis of mandible is reported as complication after routine dental extraction in alcoholics. An overwhelming amount of evidence from human and animal studies in vivo and vitro suggest that alcohol is a potent modulator of immune system at various levels.

Impaired host defense after alcohol consumption appears to be linked to a combination of:
- Decreased inflammatory response
- Altered cytokine production
- Abnormal reactive oxygen intermediate generation

Furthermore, cellular immunity particularly antigen specific immune response is impaired by both acute and chronic alcohol use. In chronic alcoholics vitamin deficiency, malnutrition and advance liver cirrhosis can also contribute to some immune abnormalities.

In chronic alcoholic there is defective chemotactic activity due to serum inhibitors. Defective chemotaxis may explain increased susceptibility to infections. In addition, in patients with chronic alcoholic hepatitis and cirrhosis there is defective serum bactericidal activity and neutrophil function abnormalities.

The patient with osteomyelitis of mandible classically presents with swelling over mandible, pus discharge and numbness of lip. Management involves i.v. administration of specific antibiotics and surgical debridement. In the present case patient had considerable liver dysfunction and therefore alcohol induced immuno-suppression was considered as predisposing factor in development of osteomyelitis. Patient was given systemic antibiotics in the form of taxim 1 gm. B.D. and metrogyl 500 mg TDS for two weeks and patient had undergone sequestrectomy and saucerization. Patient was sent to physician for correction of nutritional deficiencies and liver dysfunction to improve the host defence.

Conclusion
Once the diagnosis of osteomyelitis is established the treatment should be directed not only to local infection but also to general condition of the patient. Impaired immunity in chronic alcoholic does not allow host to mount an adequate defence to fight with infection. Therefore, chronic alcoholic should be considered as high risk group and must be managed aggressively. Understanding of complex picture of immuno-suppression is necessary for designing more specific therapeutic approaches to ameliorate immuno-suppression in chronic alcoholics.

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References