



---

## ABSTRACTS: VOLUME 6, SPECIAL ISSUE

---

### ABSTRACT

#### Phossy Jaw Disease and Correlation with White Phosphorus Bombing in Israel-Gaza War

*Islam Sweity*

*Palestine, Al-Quds University, Faculty of Dentistry, Medicine and Public health.*

**Background:** Phosphorus necrosis of the jaw, commonly called “phossy jaw”, was a really horrible overwhelmingly disease, discovered by Workers in match factories in the 19th century developed oral abscesses in their mouths, leading to facial disfigurement and sometimes fatal brain damage. The gums developed an eerie greenish white 'glow' in the dark. Disease itself depends on an influence which the fumes of phosphoric acid, when they get dissolved in the saliva, are able to exert directly within the mouth to affect the jaw bones.

#### Objectives:

- Determine the real relationship between white phosphorus exposure and phossy jaw.
- Define the source of the disease and identify the main causative agent in order to avoid serious complications.
- Discover the prevention way from predisposing factors to introduce better therapy.
- Discuss the tools and techniques that make diagnosis available by distinguishing it from other bony diseases.

**Methods:** The disease diagnosed clinically by sequestrum formation, which are light in weight, yellow to brown in color and present worm-eaten appearance likened to pumice stone.



---

The clinical and radiographic evidence of 'phossy jaw' indicates that inhibition of bone resorption isn't the principal etiological agent. Photographs of the bone sequestrate show that they are very irregular, highly resorbed, and porous. They were described as looking like 'clinkers from a coal furnace'.

**Results:** The mandible and maxilla are affected but the mandible most likely to be affected. Phossy jaws were seen mostly in children, adolescents and women who have direct exposure to phosphorus fumes. Patients usually suffered from toothache, loss of bone vitality, dull red mucosa & ulcer, followed by non-healing of the extraction socket and bone necrosis of the Jaws. Phossy jaw was fatal in about 20% of cases, usually because of septicemia or meningitis.

**Conclusions:** Israel-Occupational Bombing of White phosphorus can cause deep and severe burns, penetrating even through bone. After exposure, the priority is to stop the burning process. it can re-ignite during or after initial treatment due to the contact with oxygen so majority therapy was to clean by water/medically prepared saline throughout the process. Medical treatment of the disease should be standing on removing chemicals exposure, extraction of the affected teeth, antibiotics prescribed, but in case of recurrence the oral surgeon should be referred. And follow up the healing process. Surgical interventions are sequestrectomy in a large sequestrum forming and alveolectomy when healing is delayed in edentulous patients. This ensures that occupation strategies by bombing white phosphorus during war are the same as workers' exposure of phosphorus factories in the 19th century, which increases the incidence of being affected by phossy jaw.

**Keywords:** Occupation diseases, white phosphorus toxicity, jaw bone necrosis, Israel inhumanity.