

# Dental Implants in Smokers



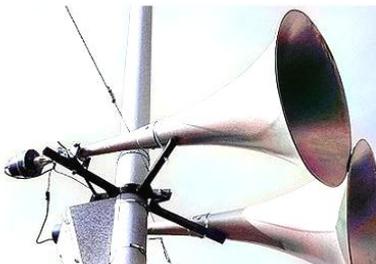
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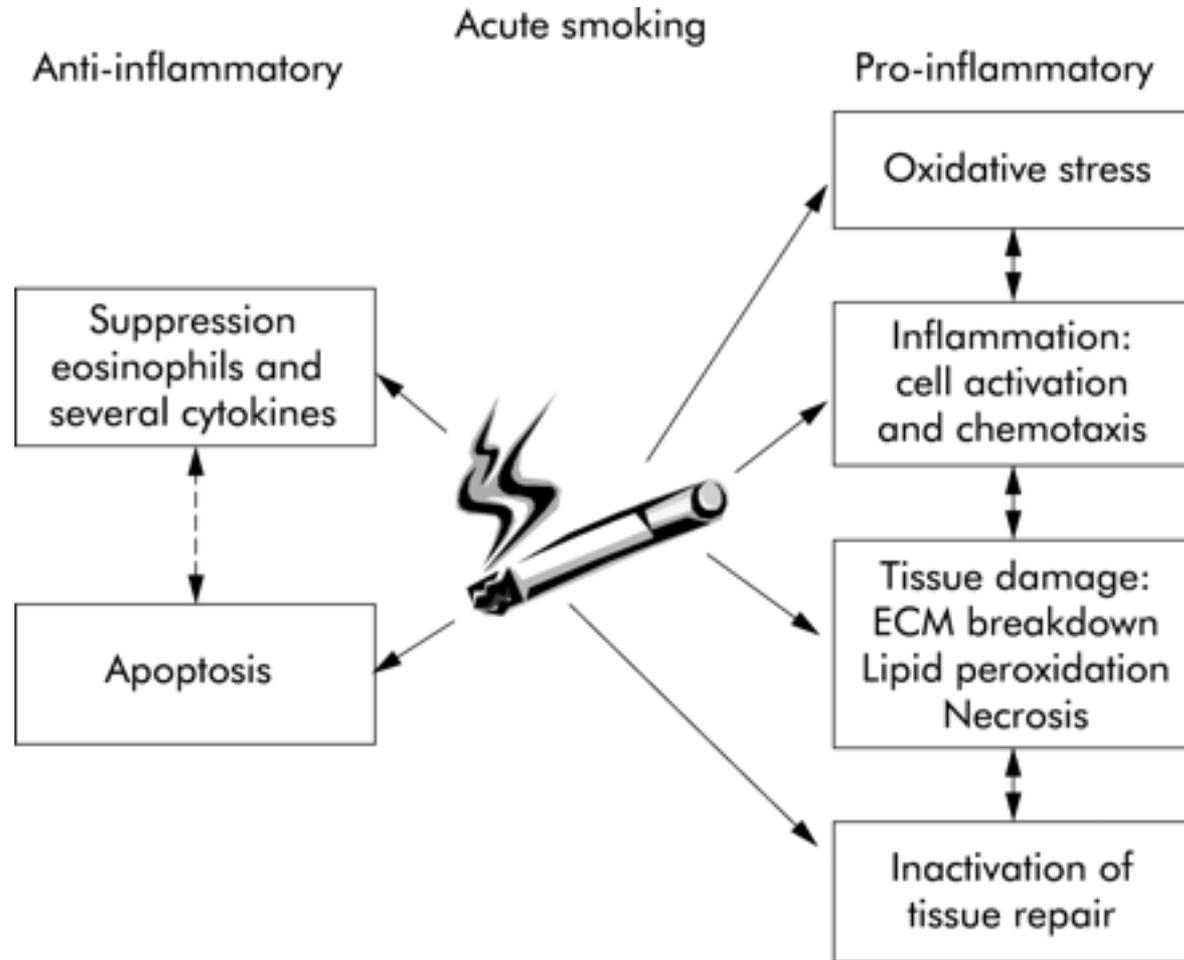
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# Cigarettes and its toxins



# Pathophysiology of smoking





# Damaging arteritis

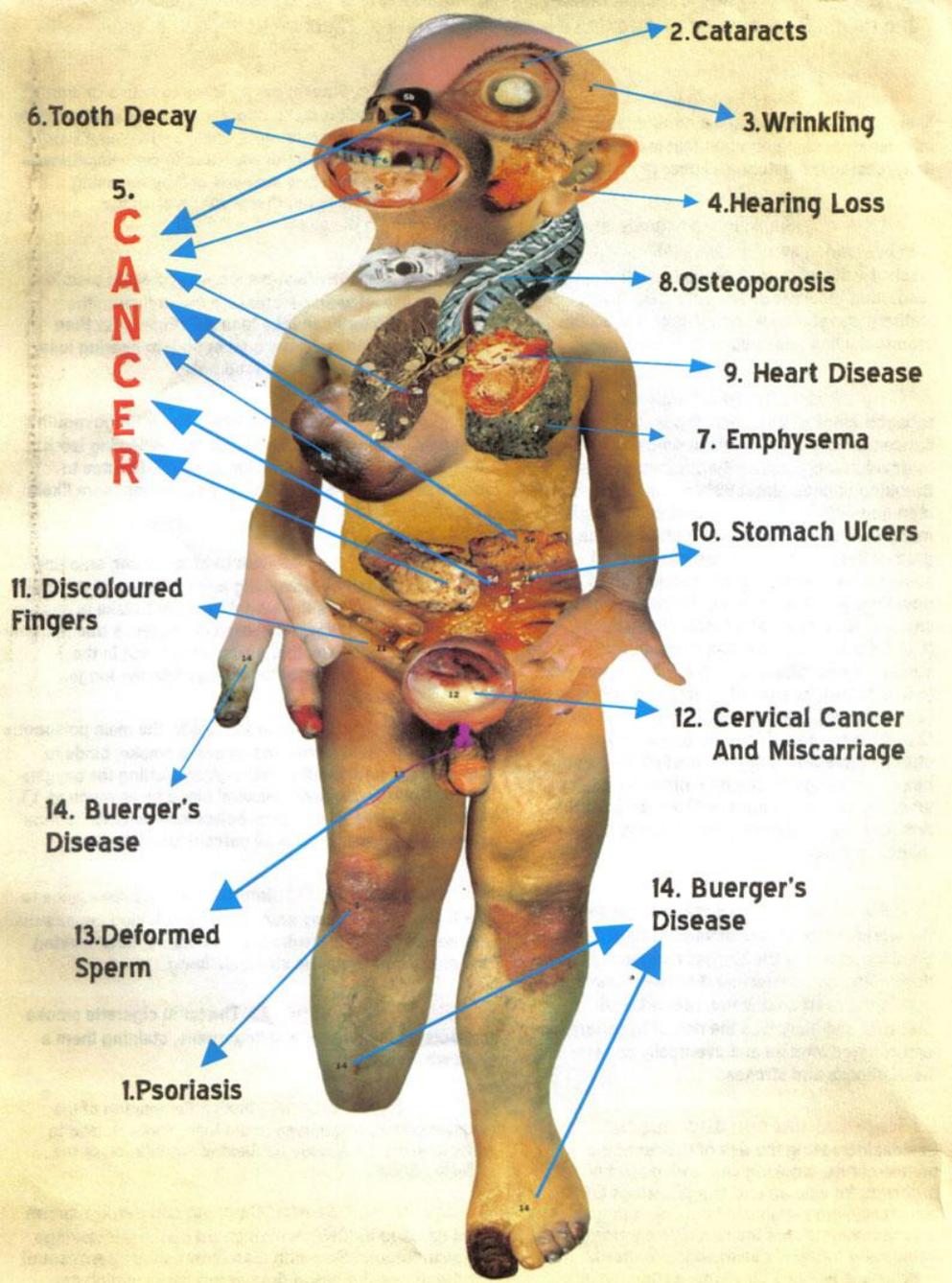


## The Hidden Disease



# Consequences of Smoking

## Multisystemic Disease



# Effects on Smoking on Oral Tissues

- Periodontal Disease: 2x higher risks
- Bone and Tissue Loss
- Tooth Loss and Edentulism
- Peri-implantitis
- Dental implant failures
- Smoking cessation improved success rates of dental implant therapy

# Difficulty with Studies

- It is difficult to completely attribute the adverse effects on implant therapy to smoking alone as in most of the studies, the population who were smokers would also suffer from other medical conditions (e.g. diabetes, osteoporosis) that could have adverse influences on osseous integration.

# Risks of Implant failures

- There is however, a significantly enhanced risk for implant failure among smokers compared with non-smokers; with the risks being higher in the first year with a slight decrease of up to about 5 years post implant surgery<sup>1</sup>.
- There is a higher early implant failure rate in such patients.

# Risks of Implant Failures

- There is also evidence that implant failures were enhanced even after 5 years. Most reports state an approximate failure rate as two times higher.<sup>1,2,5,20,21,23,31,34</sup>
- Light or moderate cigarette smoking has similar risks of implant failures and heavy smoking (>20 cigarettes per day) increases the risk.<sup>18</sup>

# Evidence Relating to Smoking & Dental Implants

- Smokers who undergo dental implant therapy are at higher risk of early implant failures and should be closely followed-up during the early healing phase of osseous integration. <sup>1,2,5,20,21,23,31,34</sup>
- **Grade C, Level 2+**
- **Well conducted case control or cohort studies with low confounding risks/bias, moderate probability causal relationship**

# Failure Rates Higher Early Implant Failures

- Smoking has a strong influence on the complication rates of implants: it causes significantly more marginal bone loss after implant placement, it increases the incidence of peri-implantitis and affects the success rates of bone grafts. <sup>1</sup>

# Evidence Relating to Smoking & Dental Implants

- For smokers who undergo dental implant therapy, particular attention should be paid to complications such as peri-implantitis, marginal bone loss and bone graft healing as part of post-surgical implant care. Where possible, alternative prosthodontic treatment methods should be explored with such patients.<sup>24</sup>
- **Grade C, Level 2+**
- **Well conducted case control or cohort studies with low confounding risks/bias, moderate probability causal relationship**

# Higher Infection Rates Impaired Wound Healing

- The failure rate of implants placed in the maxillary arch is higher though the mechanism is not understood.<sup>2</sup> Studies indicated higher failures of implants in grafted maxillary sinuses,<sup>13</sup> higher rate of infection and impaired wound healing after second stage surgery. Medical conditions such as diabetes and osteoporosis may compound the risks of implant failures in such patients.<sup>6,11,15</sup>

# Good Practice Points

- Patients who are smokers can proceed with dental implant therapy provided they are warned about the higher risks of failures, especially early failures.
- Smokers should be advised to stop smoking during the healing period and where possible prior to dental implant therapy and they should seek counselling help to stop the habit altogether.
- Risks apply to ALL smokers, light or heavy

