Effect of Systemic Tetracycline and Amoxicillin on Inflammatory Root Resorption of Replanted Dogs' Teeth

**Author:** Sae-Lim et al  
**Year:** 1998  
**Journal:** Endod Dent Traumatol

**Aim**
- To compare the effects of tetracycline & amoxicillin used systemically on inflammatory resorption due to pulpal infection in replanted dog teeth.

**Materials & Methods**
- 30 roots of 5 dogs were included in this study.
- Root canals were instrumented and filled with dental plaque to establish pulp infection.
- Roots were extracted, 5mm of the lingual mid-roots were shaved ensuring cemental damage and immediately replanted with an extra-alveolar time of less than 5min.
- Dogs were given orally for 7 days post-replantation either:
  - **Tetracycline group:** One 250mg capsule of tetracycline hydrochloride 3 times/day
  - **Amoxicillin group:** One 250mg capsule of amoxicillin 2 times/day
  - **Control group:** no antibiotics were given
- Dogs were sacrificed 5-6 months after replantation, block specimens were taken and histological examination was performed.
- The shaved root surfaces were evaluated for healing or inflammatory resorption.

**Results**

**Tetracycline group**
Healing = 67.22 %  
Inflammatory resorption = 32.78%

**Amoxicillin group**
Healing = 56.88%  
Inflammatory resorption = 43.12%

**Control group**
Healing = 27.86%  
Inflammatory resorption = 72.14%
- No statistically significant difference between the tetracycline & the amoxicillin group
- The tetracycline group was superior to the control group.

**Conclusion**
- Tetracycline showed antibacterial properties in addition to its anti-resorptive properties.
- It could be considered as an alternative to amoxicillin after avulsion injuries.

**Authors**
Varawan Sae-Lim, C. Y. Wang & Martin Trope