

# Acute dental infections and cardiac arrhythmias: a systematic literature review and case report

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## Abstract

**Objectives:** In this paper we outline how inflammation related to oral disease such as periodontitis, bacteraemia and pulpal lesions have been linked to cardiovascular disease and undertake a systematic review of the literature focused on acute dental infection and cardiac arrhythmia. We also describe an illustrative case where an acute oral infection was associated with occurrence of new onset atrial fibrillation (AF). **Methods:** An electronic search was undertaken using MEDLINE and SCOPUS from 01 Jan 1970 until 30 June 2020. We also undertook manual searches using forward and backward citation chasing. **Inclusion criteria** were any primary research studies investigating symptomatic apical infections or dental abscess with outcomes of arrhythmia. **Results** Over the last fifty years, only two low quality studies have been investigated this area. Our illustrative case involved a 58-year-old who was diagnosed with an acute dental infection from an upper canine tooth. The patient later developed tachycardia and new-onset AF. **Conclusions:** Based on the biological plausibility of a link between acute dental infection and arrhythmia, together with the case report presented, it is evident that further study in this area is needed. If there are possible cardiovascular consequences for patients suffering acute dental infections, this has future implications for healthcare staff as they can integrate professional advice related to oral health and cardiovascular disease. Screening programmes situated in dental settings can also facilitate early intervention and prevention producing benefits not just for patients, but in savings to the health system.

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