

# An Italian national report on acute dental related deaths during the 1990-2019 period.

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Argomento: Caso clinico

Introduction: Mortality on the dental chair is extremely rare and it is an underreported event in peer reviewed journals. The aim of this study was to identify all death cases occurred before, during or after dental procedures in Italy.

Methods: We searched Pubmed/MEDLINE, Cochrane and Scopus databases. We also searched Google, Yahoo, Bing and the online archives of major Italian newspapers for deaths occurred before, during or after a dental procedure in Italy from 1990 to 2019.

Results: We retrieved 37 fatal cases (1.27 per year), invariably stated by media but not reported in scientific databases. Cases regarding patients  $\leq 16$  y old were not found, and there was no significant trend towards an increase or decrease of the number of reported deaths per year during the study period. Most of the cases (n=30) occurred in private dental offices and additional 5 occurred in Hospital. Tooth extraction represented the most frequent culprit operation (n=14), while myocardial infarction (n=10, 27%) was the leading cause of death, followed by cardiac arrest (n=9, 24%), allergies (n=4, 11%) and infections (n=4, 11%). In 4 cases death was preoperative, in 22 postoperative, in 10 intraoperative. Interestingly, in 17 cases a temporal relationship between injection of anesthesia/sedation and death was observed. Dentists' or anesthesiologists' malpractice was confirmed by court sentence in 3 cases.

Conclusions: This is the first report on Italy's dental procedures related deaths. Most of them were only temporally associated to a dental procedure and were not to be attributed to dentists' malpractice. We estimated that one dentist has 1/756 possibilities to encounter this event during an average 40-years-career. The ability of the dentist to initiate primary management is the key to minimizing morbidity and mortality.