

A 21 year retrospective study of reports of paresthesia following local anesthetic administration.

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Abstract

A retrospective study of paresthesia following the injection of local anesthetic in dentistry was conducted by examining every report of paresthesia recorded by Ontario's Professional Liability Program from 1973 to 1993, inclusive. Only those cases where surgery was not conducted were considered in this study. The parameters examined included patient age and gender, needle gauge, site of injection, area affected, report of pain or any additional symptoms, and the type of local anesthetic used. From 1973 to 1993, there were 143 reports of paresthesia not associated with surgery. There were no significant differences found with respect to patient age, patient gender, or needle gauge. All reports involved anesthesia of the mandibular arch, with the tongue most frequently reported to be symptomatic, followed by the lip. Pain was reported in 22 per cent of the cases. Paresthesia was reported most often following the injection of articaine and prilocaine. In 1993 alone, there were 14 reports of paresthesia not associated with surgery. This can be projected to an incidence of 1:785,000 injections. Articaine was administered in 10 of these cases or prilocaine in the other four. The observed frequencies of paresthesia following the administration of articaine ($p < 0.002$) or prilocaine ($p < 0.025$) were significantly greater than the expected frequencies for these agents, based on the distribution of local anesthetic use in Ontario in 1993. These results are consistent with the suggestion that local anesthetic formulations may have the potential for mild neurotoxicity. Further studies are needed to investigate the mechanisms for this, and to determine whether similar findings would be found elsewhere.