



G35 You Mean You Made an Identification Using What?

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After attending this presentation, attendees will have a better understanding of typical and atypical presentations of the styloid process and how this could help with a positive identification of human remains.

This presentation will impact the forensic science community by providing an understanding of how anatomical variance of the styloid process can lead to a positive identification.

Introduction: Non-dental anatomical findings occasionally assist in dental identification. Examples include the use of frontal sinuses, palatal rugae, tori, and other bony pathosis. A case is presented in which a distinctive styloid process served to upgrade the confidence in a dental identification. After attending this presentation, attendees will be able to appreciate the value of finding an uncommon anatomical variance and its use in reaching a positive identification. Attendees will better understand atypical presentations and the Langlais Type Classification system used to categorize the degree of elongation and configuration of the styloid processes, which may be classified as Eagle Syndrome in a symptomatic patient.

Case Report: The nearly skeletal remains of a suicidal hanging victim found in a remote area in Carroll County, KY, in March 2015 were suspected to be that of a man reported missing the previous September. A dentist was located who treated the putative victim on two visits, one during which radiographs were made and another that recorded the extraction of tooth #31. The radiographs confirmed the presence of three composite restorations and several missing teeth, allowing a directed identification. The finding of an intact styloid process measuring 5.1cm proved to be the most distinctive characteristic, allowing for a more confident identification.

Discussion: The styloid process is rarely mentioned as a determinant of identity in forensic dental examinations because it is liable to be seen only in skeletal cases and is vulnerable to postmortem fracture and loss. Also, it must be compared to an antemortem radiograph that features this structure, typically a panoramic or cephalometric image. A normal styloid process measures <2.5cm.¹ Styloid processes (including those elongated due to calcification of the stylohyoid ligament) larger than 3cm are present in 4%-10% of the population; however, fewer than 5% of those cases are noted *in vivo* due to asymptomatic presentations. This low incidence constitutes a distinctive feature. Additionally, tortuous shapes, radiolucencies, and articulation variances add to the individuality of the finding. Elongated styloid processes with or without ligament calcification have clinical relevance and dentists should be aware of this. Pain when swallowing or turning the head due to impingement of the pharynx from an elongated styloid is called Eagle syndrome.

Significance: An elongated or distorted styloid process observed in skeletal remains can aid the forensic dentist in identification. Likewise, this finding in an antemortem radiograph can prompt the acquisition of comparative postmortem images in non-skeletal remains.

Reference(s):

1. Koshy J.M., Narayan M., Narayanan S., Priya B.S., Sumathy G. Elongated styloid process: A study. *Journal of Pharmacy & Bioallied Sciences*. 2015;7(S131-S133).

Identification, Styloid Process, Eagle Syndrome