

# Odontoma

Lester D. R. Thompson, MD<sup>1</sup> 

Ear, Nose & Throat Journal

1-2

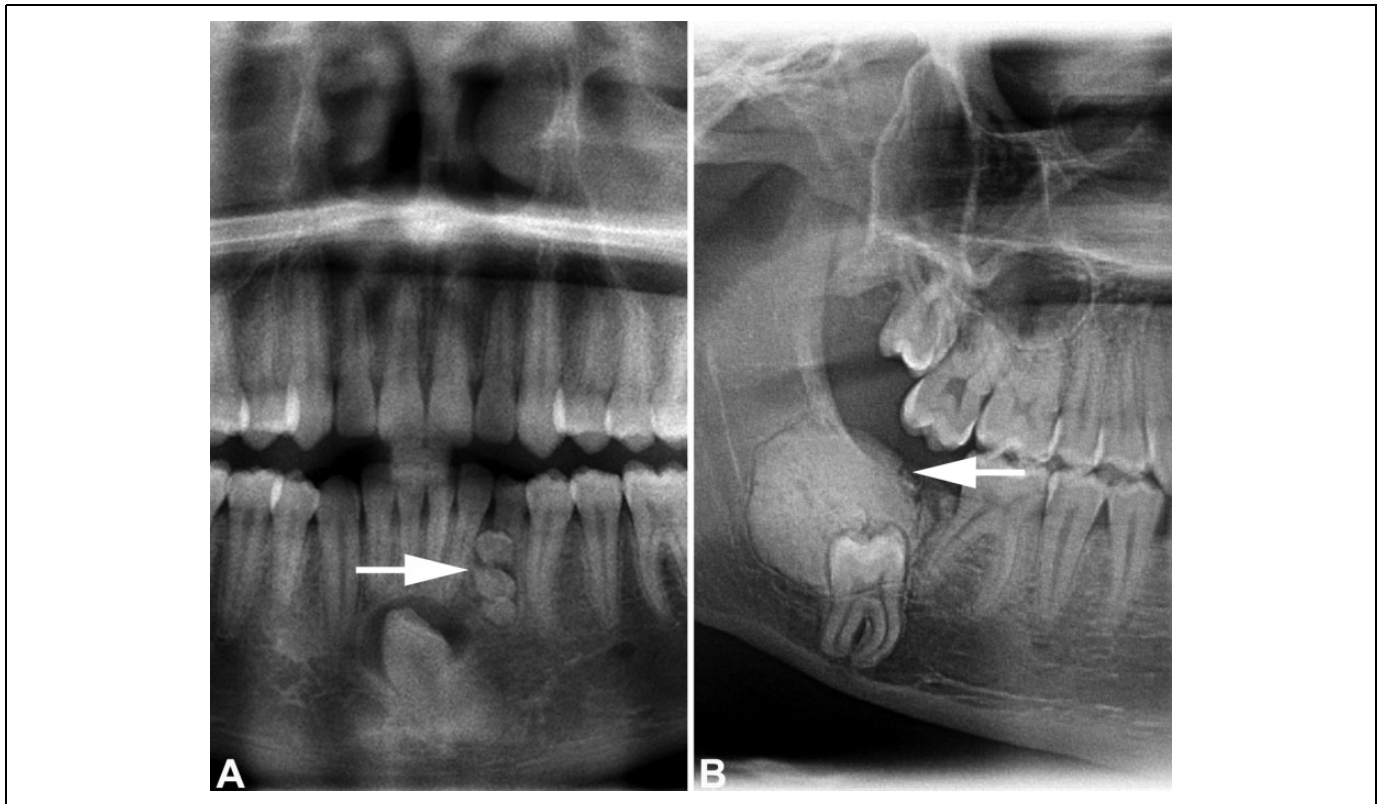
© The Author(s) 2019

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/0145561319890175

journals.sagepub.com/home/ear



**Figure 1.** A, Compound odontoma (white arrow) showing multiple diminutive tooth-like structures in the anterior mandible. B, Complex odontoma (white arrow), presenting as a radiopaque mass covering an unerupted tooth in the posterior mandible.

Odontomas are hamartomas of odontogenic epithelium and ectomesenchyme, separated into compound and complex types. Both considered as a developmental anomaly, compound odontomas show diminutive tooth-like structures (Figures 1A and 2A), while complex odontomas show a haphazard aggregate of enamel and dentin (Figures 1B and 2B). Odontomas are considered to be one of the most common odontogenic tumors, with most presenting in the first 2 decades of life without sex predilection. Compound odontomas are more common in the anterior maxilla, while complex odontomas

<sup>1</sup> Department of Pathology, Woodland Hills Medical Center, Southern California Permanente Medical Group, Woodland Hills, CA, USA

Received: October 14, 2019; revised: October 19, 2019; accepted: November 1, 2019

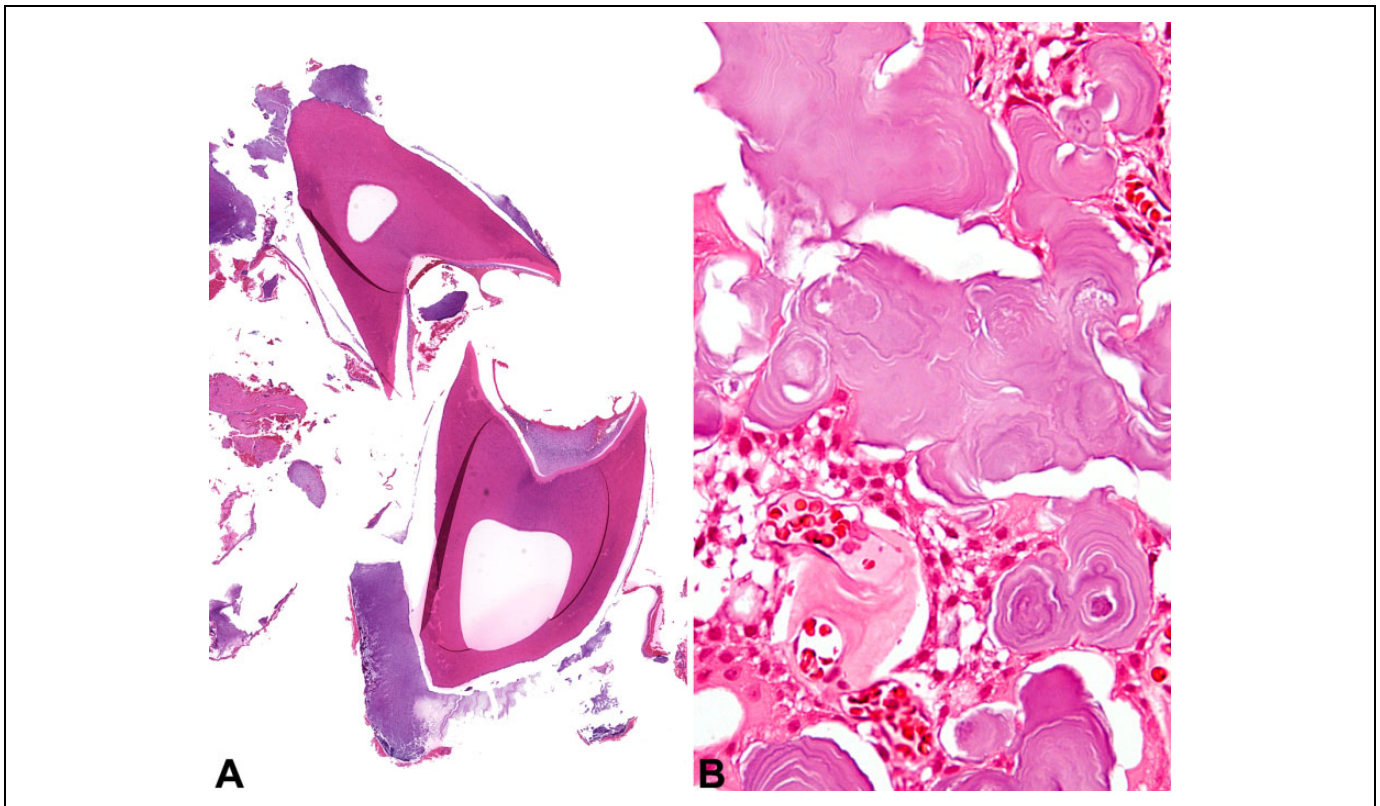
#### Corresponding Author:

Lester D. R. Thompson, MD, Woodland Hills Medical Center, Southern California Permanente Medical Group, 5601 De Soto Avenue Woodland Hills, CA 91364, USA.

Email: lester.d.thompson@kp.org



Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 License (<http://www.creativecommons.org/licenses/by-nc/4.0/>) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (<https://us.sagepub.com/en-us/nam/open-access-at-sage>).



**Figure 2.** A, Histology of a compound odontoma showing multiple diminutive teeth with well-developed and orderly relationships between the dentin and enamel material. B, Haphazard blending of odontogenic precursors, including dentin-like material, in this complex odontoma.

are more common in the posterior mandible (Figure 1B). The lesions are usually asymptomatic, detected on routine dental imaging studies, with a few cases reported in Rubinstein-Taybi syndrome. Radiographic features are considered diagnostic, with tooth-shaped structures surrounded by a radiolucent zone in compound odontomas versus a radiodense mass with a radiolucent zone seen in complex odontoma. Simple excision is curative without risk of recurrence.

By gross examination, compound odontoma shows tooth-shaped hard tissues, while complex odontoma shows a disorganized mass of white-yellow hard tissues; both types are associated with fibrous connective tissue.

Compound odontomas have a histologic appearance similar to a normal tooth with mature tubular dentin, enamel matrix, cementum, and pulp tissue (Figure 2A), while a complex odontoma shows a haphazard arrangement of tubular dentin, enamel matrix, cementum, and sometimes epithelial ghost cells (Figure 2B). It is possible to see other odontogenic cysts or tumors with odontomas. The differential includes supernumerary teeth (hyperdontia), root tip due to incomplete tooth extraction, and normal teeth (impacted).

#### Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

#### Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

#### ORCID iD

Lester D. R. Thompson  <https://orcid.org/0000-0003-3714-1432>

#### Suggested Reading

1. Owosho AA, Potluri A, Bilodeau EA. Odontomas: a review of diagnosis, classification, and challenges. *Pa Dent J (Harrishb)*. 2013;80(5):35-37.
2. Soluk Tekkesin M, Pehlivan S, Olgac V, Aksakalli N, Alatli C. Clinical and histopathological investigation of odontomas: review of the literature and presentation of 160 cases. *J Oral Maxillofac Surg*. 2012;70(6):1358-1361.
3. Hidalgo-Sánchez O, Leco-Berrocal MI, Martínez-González JM. Meta-analysis of the epidemiology and clinical manifestations of odontomas. *Med Oral Patol Oral Cir Bucal*. 2008;13(11):E730-E734.