

**UC Davis**  
**Ophthalmology and Vision Science**

**Title**

Misdiagnosis of Bell's palsy: Literature Review

**Permalink**

<https://escholarship.org/uc/item/6363r8kp>

**Authors**

Fong, Nancy

Bacorn, Colin

Lin, Lily K

**Publication Date**

2020

**Data Availability**

The data associated with this publication are not available for this reason: N/A



# Misdiagnosis of Bell's palsy: Literature Review

Nancy Fong<sup>a</sup>, B.S., Colin Bacorn<sup>b</sup>, M.D., Lily Koo Lin<sup>b</sup>, M.D.

<sup>a</sup> University of California Davis School of Medicine, University of California Davis, Sacramento, CA, USA

<sup>b</sup> Department of Ophthalmology and Visual Science, University of California Davis Health, Sacramento, CA, USA



## Introduction

- Acute facial paralysis is a common neurologic condition that may be associated with significant morbidity and mortality.
- Bell's palsy is the most reported cause of acute facial paralysis, accounting for 60-80% of cases.<sup>1-4</sup>
- While Bell's palsy is benign and associated with recovery in 85% of patients, its prevalence may contribute to physicians' failure to recognize more insidious underlying causes.<sup>5</sup>



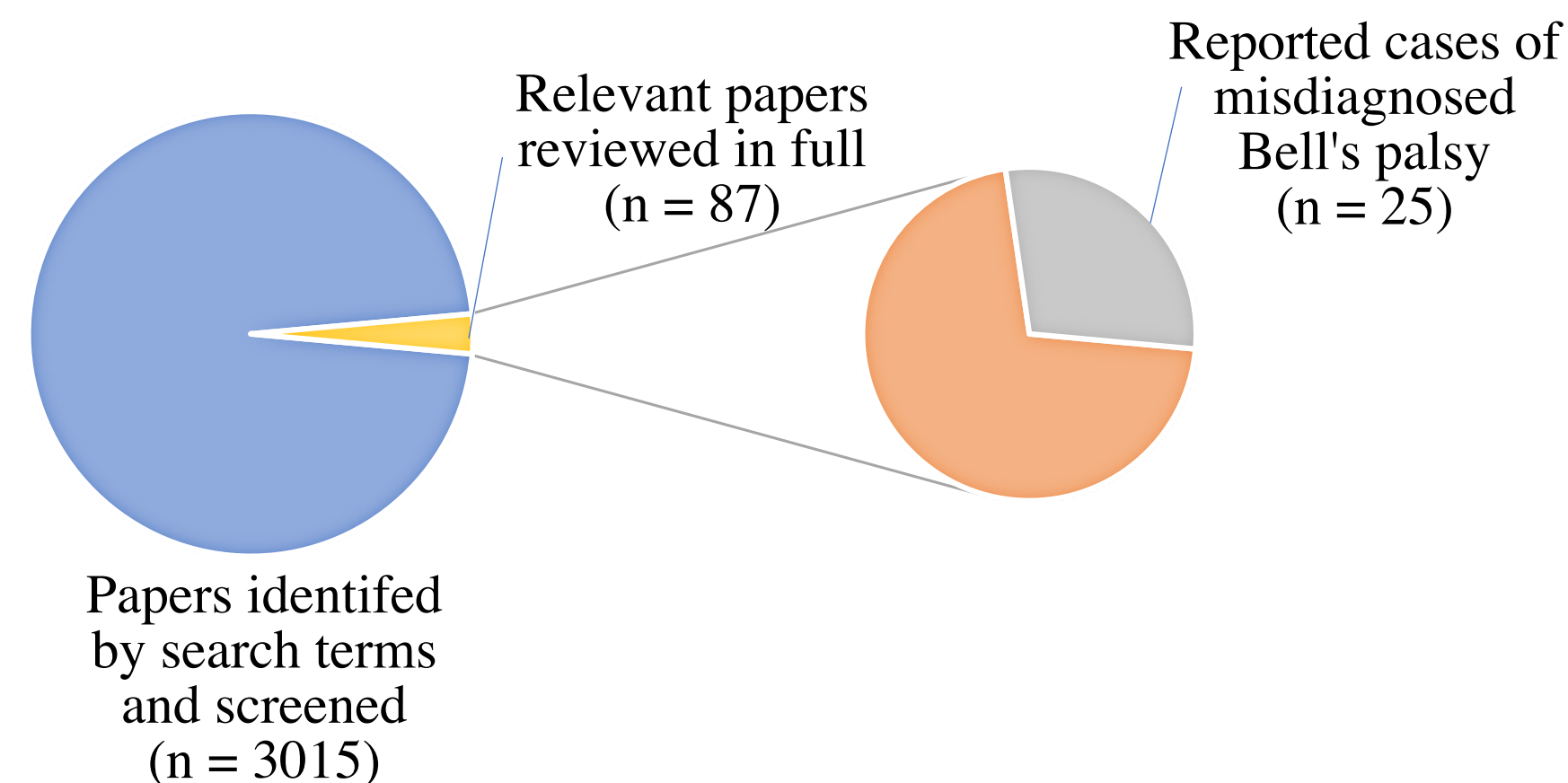
**Figure 1.** A. Drooping at the corner of the mouth. B. Loss of forehead wrinkle.

Zhang L, Steckman D. *BMJ Case Rep* 2019;12:e227705. doi:10.1136/bcr-2018-227705

## Methods

- An extensive review of the literature published before October 2019 was conducted by searching the PubMed database for reports of patients initially diagnosed with Bell's palsy that went on to have an underlying identifiable cause for their facial palsy.
- The search terms "bell's palsy", "bell's palsy misdiagnosis", "bell's palsy mimic", "facial palsy misdiagnosis" were used to identify potentially relevant reports.

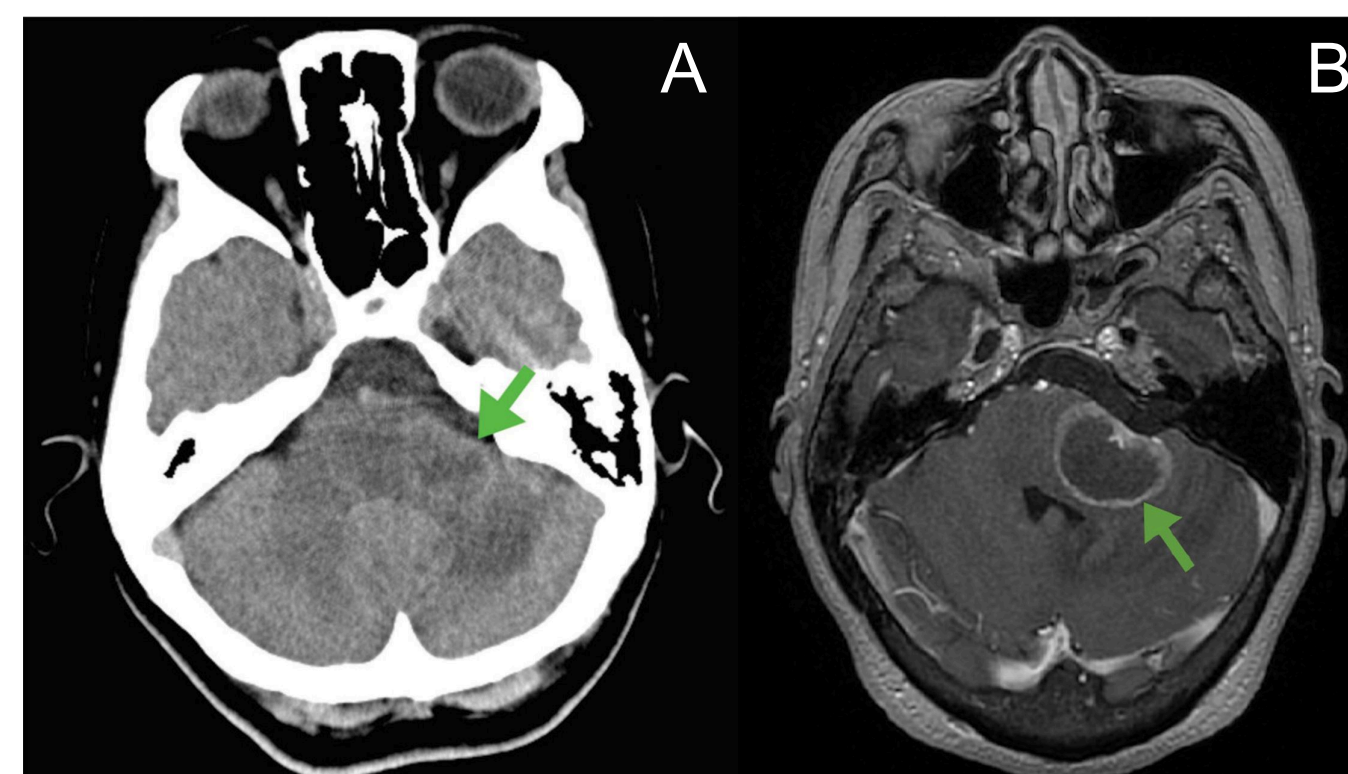
## Literature Review



**Figure 2.** Cases documenting misdiagnosed Bell's palsy.

Etiology	Cases	Percentage
Idiopathic	1	4%
Viral	2	8%
Compressive/Infiltrative	15	60%
Ischemic/Hemorrhagic	3	12%
Lyme	1	4%
Demyelinating	3	12%
Total	25	100%

**Table 1.** Etiologic distribution by diagnosis.



**Figure 3.** A. CT showed a low-density lesion. B. T2-weighted MRI revealed a high-intensity lesion.

Shikino K, Suzuki S, Uehara T, Ikusaka M. Central nervous system lymphoma mimicking Bell palsy. *Cleve Clin J Med.* 2018;85(6):442-443. doi:10.3949/ccjm.85a.17061

## Discussion

1. Authors identified several common factors contributing to a misdiagnosis of Bell's palsy:
  - Presence of a rare disease or presentation
  - False negative or misinterpreted neuroimaging studies
  - Failure to recognize physical exam findings
2. Physicians should exercise caution when referrals for presumed Bell's palsy is not accompanied by a documented complete exam.
  - For example, Bell's palsy patients may present with hyperacusis, whereas deafness suggests involvement of CNVIII and incompatibility with a simple Bell's palsy.<sup>6</sup>
3. According to our review (**Table 1**) and Shikino et al. (2018), the most common finding in patients misdiagnosed with Bell's palsy was tumor.<sup>7</sup>
  - If suspected, a gadolinium-enhanced MRI is indicated, as contrast-enhanced CT is less sensitive and may miss the diagnosis in a third of the cases (**Figure 3**).<sup>6</sup>
4. The term Bell's palsy must be used with care as it implies a thorough and negative examination to exclude other diagnoses.

## References

1. Morris AM, Deek SL, Hill MD, et al. Annualized incidence and spectrum of illness from an outbreak investigation of Bell's palsy. *Neuroepidemiology.* 2002;21(5):255-261. doi:10.1159/000065645
2. Newadkar UR, Chaudhari L, Khalekar YK. Facial Palsy, a Disorder Belonging to Influential Neurological Dynasty: Review of Literature. *North Am J Med Sci.* 2016;8(7):263-267. doi:10.4103/1947-2714.187130
3. Katusic SK, Beard CM, Wiederholt WC, Bergstralh EJ, Kurland LT. Incidence, clinical features, and prognosis in Bell's palsy, Rochester, Minnesota, 1968-1982. *Ann Neurol.* 1986;20(5):622-627. doi:10.1002/ana.410200511
4. Peitersen E. Bell's palsy: the spontaneous course of 2,500 peripheral facial nerve palsies of different etiologies. *Acta Oto-Laryngol Suppl.* 2002;(549):4-30.
5. Peitersen E. The natural history of Bell's palsy. *Am J Otol.* 1982;4(2):107-111.
6. Sekhar A, Corbo B, Das K, Biswas S. Leptomeningeal carcinomatosis: easy to miss. *J R Coll Physicians Edinb.* 2017;47(4):351-352. doi:10.4997/JRCPE.2017.409
7. Shikino K, Suzuki S, Uehara T, Ikusaka M. Central nervous system lymphoma mimicking Bell palsy. *Cleve Clin J Med.* 2018;85(6):442-443. doi:10.3949/ccjm.85a.17061

**Disclosure of interest:** The authors report no conflict of interest.