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# Gingival Squamous Cell Carcinoma: Systematic Review

**Language:** English

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**Objectives**

The objective of this study is to determine by a systematic review the proportion of gingival squamous cell carcinoma (GSCC) in relation to all oral squamous cell carcinomas (OSCC). What is the prevalence of the squamous cell carcinoma of the gingiva in relation to other oral sites of occurrence?

**Material and Methods**

Two independent reviewers searched the Medline database for relevant English language publications. Studies were selected if they met the following criteria: case series of histologically confirmed OSCC, excluding extraoral and vermilion border of lip carcinomas. Recorded data for each study: total number of patients with OSCC, number of patients with GSCC, which included alveolar ridge and retromolar area occurrences and excluded other unspecified oral sites. Other recorded data were age, gender, relative exposures to tobacco, alcohol, betel nut, and occurrence of oral lichen planus or other putative risk factors.



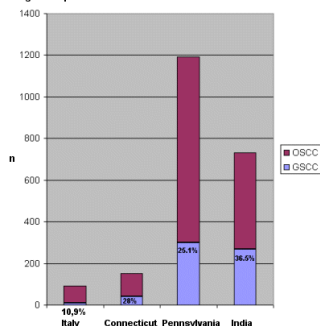
A squamous cell carcinoma presenting as a verrucous keratotic lesion of the marginal gingiva, in a 54 year old male patient.

Squamous cell carcinoma of the lower gingiva. Presenting as a deeply ulcerative lesion, in a 65 year old female patient.

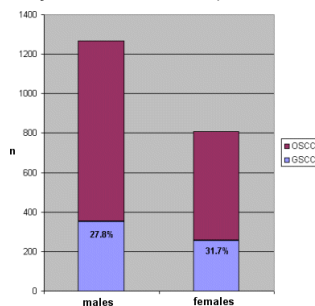
**Results**

The search yielded a list of 118 publications, of which 33 were selected and 4 were included. The total number of patients with OSCC, in the 4 studies, was 2167. The proportion of patients with GSCC was: 36.5% in the Indian study, 28% and 25% in the two US studies, and 10,9% in the Italian. Data from the Indian and the US studies indicated that men are less affected by GSCC than women (proportions: 27.8% vs 31.7%, odds ratio 0.81, 95% confidence interval: 0.67-0.99).

Gingival Squamous Cell Carcinoma Cases in different studies



Gingival Squamous Cell Carcinoma by gender (Connecticut, Pennsylvania, and India cases combined)



**Discussion and Conclusions**

GSCC proportions were highly variable. To establish if such differences are due to methodological flaws or to ethnic, geographic or cultural factors, further appropriate investigations are required.

- only 4 studies met the inclusion criteria.
- the prevalence of the squamous cell carcinoma of the gingiva (GSCC) in relation to other oral sites of occurrence was variable.
- women seemed to be at a moderately higher risk for GSCC.

## **Bibliography**

The systematic review resulted in the following selection:

- Pennsylvania.  
Makridis SD, Mellado JR, Freedman AL, Salkin LM, Stein MD, Leal K, Miller AS. Squamous cell carcinoma of gingiva and edentulous alveolar ridge: a clinicopathologic study. *Int J Periodontics Restorative Dent.* 1998 Jun;18(3):292-8.
- Connecticut.  
Barasch A, Morse DE, Krutchkoff DJ, Eisenberg E. Smoking, gender, and age as risk factors for site-specific intraoral squamous cell carcinoma. A case-series analysis. *Cancer.* 1994 Feb 1;73(3):509-13.
- India.  
Chattopadhyay A. Epidemiologic study of oral cancer in eastern India. *Indian J Dermatol.* 1989 Sep;34(3):59-65.
- Italy.  
Mashberg A, Merletti F, Boffetta P, Gandolfo S, Ozzello F, Fracchia F, Terracini B. Appearance, site of occurrence, and physical and clinical characteristics of oral carcinoma in Torino, Italy. *Cancer.* 1989 Jun 15;63(12):2522-7.

Reference on systematic reviews:

Needleman IG. A guide to systematic reviews. *J Clin Periodontol.* 2002 29(Suppl. 3): 10-21.

## **Abbreviations**

GSCC = Gingival squamous cell carcinoma.

OSCC = All oral squamous cell carcinomas.

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# Gingival Squamous Cell Carcinoma: Systematic Review

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## Objective

To determine by a systematic review the proportion of gingival squamous cell carcinoma (GSCC) in relation to all oral squamous cell carcinomas (OSCC).

## Material and methods

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## Study Question

What is the prevalence of the squamous cell carcinoma of the gingiva in relation to other oral sites of occurrence?



A squamous cell carcinoma presenting as a verrucous keratotic lesion of the marginal gingiva, in a 54 year old male patient.



Squamous cell carcinoma of the lower gingiva. Presenting as a deeply ulcerative lesion, in a 65 year old female patient.

## Results

The search yielded a list of 118 publications, of which 33 were selected and 4 were included. The total number of patients with OSCC, in the 4 studies, was 2167. The proportion of patients with GSCC was: 36.5% in the Indian study, 28% and 25% in the two US studies, and 10% in the Italian. Data from the Indian and the US studies indicated that men are less affected by GSCC than women (proportions: 27.8% vs 31.7%, odds ratio 0.81, 95% confidence interval: 0.67-0.99).

### The Evidence

The systematic review resulted in the following selection:

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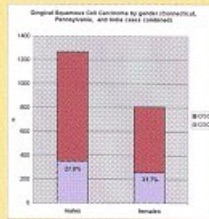
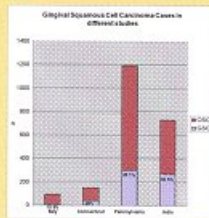
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## Conclusions

- only 4 studies met the inclusion criteria
- the prevalence of the squamous cell carcinoma of the gingiva (GSCC) in relation to other oral sites of occurrence was variable
- women seemed to be at a moderately higher risk for GSCC