

Malignant transformation rates in Oral Lichen Planus

Abstracted from

Giuliani M, Troiano G, Cordaro M, *et al.*

Rate of malignant transformation of oral lichen planus: A systematic review. *Oral Dis* 2018; doi: 10.1111/odi.12885. [Epub ahead of print] Review. PubMed PMID: 29738106.

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Question: In patients with oral lichen planus what is the rate of malignant transformation?

Data sources PubMed, Scopus and Web of Science databases.

Study selection Cohort, case-control or retrospective studies involving more than 50 patients with biopsy proven diagnosis and absence of dysplasia at initial diagnosis of oral lichen planus (OLP) or oral lichenoid lesions (OLL) were considered.

Data extraction and synthesis Two reviewers independently selected the studies and abstracted data. Study quality was assessed using the Newcastle-Ottawa Scale. A third reviewer arbitrated any disagreements. A random effects meta-analysis of malignant transformation rates was conducted.

Results Twenty-one studies were included, 18 were retrospective and three prospective. In total there were 6559 patients; 6353 with OLP and 206 with OLL. The follow-up periods ranged from 18-300 months. Ninety-two cases of oral squamous cell carcinoma developed during the observation period. The overall transformation rate (TR) was 1.4%; 1.37% for OLP and 2.43% for OLL.

Conclusions This systematic review confirms that both OLP and OLL, the latter with a slightly higher TR, may be considered potentially malignant disorders and suggest that erosive type, female gender and tongue site should be considered as risk factors for OLP transformation. Major efforts should be made to establish strict clinical and histological criteria to diagnose OLP and to perform sounder methodological observational studies.

Commentary

A 2008 systematic review by McCartan and Healy¹ estimated the age-standardised prevalence of oral lichen planus at 1.27% (0.96% in men and 1.57% in women). It is a mucocutaneous inflammatory condition that can manifest in a number of ways. The most common is reticular type which has a white lacy appearance, other forms include erosive, atrophic and plaque forms. The first reported case of oral squamous cell carcinoma developing in a patient with OLP was in 2010 and since that time a number of studies have reported on malignant transformation in OLP. The aim of this review was to assess the rate of malignant transformation in patients with OLP.

Searches were conducted in three large databases with a broad range of study designs being considered for inclusion; cohort, case-control or retrospective studies. The included studies were limited to those published in English which potentially excludes relevant studies.

While 21 studies were included in the review the majority (18) were of a retrospective design. This raises some concerns as these types of studies are more likely to suffer from selection and recall bias and may also have missing data items. The review authors also noted that only a small number of the studies reported on the presence of other potential risk factors for oral cancer, a fact that should also be taken into consideration.

In the last five years there have been at least two previous systematic reviews looking at malignant transformation in OLP. The first by Fitzpatrick *et al.* in 2014² again only included English language studies, including 16 in all the range of transformation rates they identified ranged from zero to 3.5% the same as this current review. Fitzpatrick *et al.* only calculated a transformation rate for OLP, which at 1.09% is slightly lower than this new review. The second review by Aghbari *et al.* in 2017³ included a larger selection of studies, 57 in total, although non-English language publications were again excluded. Aghbari *et al.* found a malignant transformation rate of 1.1% (95% CI: 0.9%, 1.4%) but noted that the rate was lower at 0.9% (95% CI: 0.5%, 1.3%) when only the more recent studies employing the World Health Organization-2003 diagnostic criteria were included. Aghbari *et al.* also noted a higher TR in OLL patients of 2.5%, (95% CI; 1%, 4%) similar to this current review.

This current review and the Fitzpatrick *et al.* review note that the tongue was the commonest site for malignant change, although Aghbari *et al.* suggest that the reporting of the cancer site in studies was often not clear and may have arisen in previously healthy areas of the mouth. So while this and the other reviews discussed provide some evidence to confirm the potentially malignant status of OLP and OLL, the quality of these largely retrospective studies included limits our confidence in the findings. In order to properly investigate the potential for malignant transformation of OLP long term multicentre cohort studies with good clinical and histological information are needed.

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2. Fitzpatrick SG, Hirsch SA, Gordon SC. The malignant transformation of oral lichen planus and oral lichenoid lesions: a systematic review. *J Am Dent Assoc* 2014; **145**: 45-56. doi:10.14219/jada.2013.10. Review. PubMed PMID: 24379329.
3. Aghbari SMH, Abushouk AI, Attia A *et al.* Malignant transformation of oral lichen planus and oral lichenoid lesions: A meta-analysis of 20095 patient data. *Oral Oncol* 2017; **68**: 92-102. doi: 10.1016/j.oraloncology.2017.03.012. Epub 2017 Apr 5. Review. PubMed PMID: 28438300.

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