

Treatment decision in indirect restoration : cusp coverage or not?

Jong-in Lee*, Dohyun Kim, Yooseok Shin, Jeong-Won Park, Sung-Ho Park, Byoung-Duck Roh

College of Dentistry, Yonsei University, Seoul, Korea

I. Introduction

In clinic, there are some cases with insufficient remaining tooth structure after caries removal and cavity preparation. On that occasion, we can consider cusp coverage to protect residual tooth structure from fracture.

In this case, distobuccal cusp of mandibular first molar was covered and restored with gold onlay due to not enough remaining cusp.

II. Case Presentation

1. Chief complaint : General oral examination
2. Sex/age : M/23
3. Past Medical/Dental History : Gold inlay on #36[O]
4. Present Illness : mob(-), per(-), cold(+) on #36
with proximal dental caries
5. Impression : Proximal dental caries on #36[distal]
6. Tx Plan : Re-Gold inlay on #36[DO]

III. Discussion and conclusion

There are some disadvantages to cusp coverage, such as reduction of residual tooth structure amount. However, in order to prevent long term risks like fractures, cusp coverage can be considered when amount of residual tooth is insufficient and it is difficult to withstand an occlusal force.

Cusp coverage should be considered when cavity preparation exceeds 1/3 of intercuspal. When cusp wall thickness is less than 2mm, we should consider cusp coverage (Rocca GT *et al.*(2015), Krifka S *et al.*(2009)).

In this case, cusp wall thickness was 2.1mm which narrowly exceeds 2mm and cavity width was wider than 1/3 of intercuspal. Furthermore, distobuccal cusp of a mandibular first molar is a functional cusp. Therefore, we should consider cusp coverage and this can contribute to long-term maintenance of restoration.