The efficacy of topical imiquimod in high-grade cervical intraepithelial neoplasia: a systematic review and meta-analysis

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September 13, 2022

Abstract

Background Surgical treatment for high-grade cervical intraepithelial neoplasia (CIN) may affect future fertility and pregnancy outcomes, therefore alternative therapies are desirable. Objectives To determine the efficacy of topical imiquimod in treatment of high-grade CIN (defined as regression CIN 1 or less), and to determine the clearance rate of high-risk human papillomavirus (hr-HPV), compared to surgical treatment and placebo. Search strategy Cohort studies and trials up to July 2022 were searched with the terms imiquimod, cervical dysplasia, and HPV. Selection criteria Studies evaluating the efficacy of imiquimod in CIN lesions. Data collection and analysis The study followed the PRISMA checklist. Meta-analysis was conducted to determine the efficacy of imiquimod treatment. Main results Five studies involving 463 women with high-grade CIN were included. Imiquimod was associated with histological regression to CIN1 or less in 55% of cases versus 29% for placebo, and 93% for surgical treatment. Imiquimod-treated women had a greater odds ratio of histological regression to CIN1 or less than placebo-treated women (ORs 4.17, 95% CI 2.03-8.54). In comparison to imiquimod, surgical treatment had an odds ratio of 14.81 (95% CI 6.59-33.27) for histological regression to CIN1 or less. The hr-HPV clearance rate was 53.4% after imiquimod treatment and 66% after surgical treatment (ORs 1.53, 95% CI 0.62-23.77). Conclusions: Histological regression is higher in imiquimod treatment than placebo. Surgical treatment, which is currently the golden standard, shows a higher regression rate than imiquimod. Future studies should focus on patient selection and further development of alternative treatments.

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