

Antifungal agents in preventing oral candidiasis in clinical oncology: A network meta-analysis

ABSTRACT

Objective: This review examined the comparative efficacy and safety of antifungal agents in preventing oral candidiasis among patients on cancer treatment. **Methods:** We performed a systematic review and network meta-analysis based on randomised controlled trials that compared antifungal agents to placebo or other antifungal agents used in patients undergoing cancer treatment. Relative ranking of antifungal agents was evaluated with surface under the cumulative ranking (SUCRA) probability score. A total of 20 randomised controlled trials (3,215 participants) comparing 11 interventions were included. **Results:** Compared with placebo, clotrimazole was ranked the best agent for preventing the incidence of oral candidiasis (risk ratio (RR), 0.21 [95% CI 0.08 to 0.55]; SUCRA = 0.89). Fluconazole was ranked the safest among other antifungal agents (SUCRA = 0.80), whereas clotrimazole (SUCRA = 0.36) and amphotericin B (SUCRA = 0.18) were ranked low for safety. Amphotericin B was associated with highest risk of adverse events (RR, 3.52 [95% CI 1.27 to 9.75]). **Conclusion:** Clotrimazole is the most effective in preventing oral candidiasis, whereas fluconazole has the most favourable risk-benefit profile in patients undergoing cancer treatment. However, we are unable to recommend clotrimazole as the best choice to prevent oral candidiasis due to unavailability of studies comparing clotrimazole with other antifungal agents.

Keyword: Antifungal agents; Cancer; Network meta-analysis; Oral candidiasis; Prevention; Systematic review