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Cyanoacrylate Adhesives Used for Topical Hemostasis – A Systematic Review

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Abstract

Introduction: In this systematic review the topical hemostatic properties of Cyanoacrylate Adhesives (CA) have been studied.

Material and Method: Four major scientific databases (Embase, Scopus, PubMed, and Web of Science) were inquired, retrieving reviews and meta-analysis studies, clinical trials, experimental studies, and case reports that presented data regarding topical hemostasis and CA. English written articles, published in the last 10 years were collected. The last search was performed on the 1st of August 2023. Risk of bias in the included studies was assessed using study-design specific, evidence-based tools.

Results: A summary focused on relevant information of all included studies was drafted and the results of the studies have been synthetized and compared. A total of 42 studies have been included in the review (14 reviews and meta-analysis, 11 clinical trials, 9 experimental studies and 8 case reports). CA exhibited important topical hemostatic capabilities, comparable with other performant hemostatic materials. Although most included studies concluded that CA were potent topical hemostatic agents, the high level of heterogeneity among the studies prevented us from performing a meta-analysis.

Conclusion: The results of this review show that CA-based compounds represent an important line of research towards the perfect hemostatic material.

Key words: topical hemostasis, cyanoacrylate, tissue adhesive, hemostatic material