

عنوان مقاله:

Potential of polymeric particles as future vaccine delivery systems/adjuvants for parenteral and non-parenteral immunization against tuberculosis: A systematic review

محل انتشار:

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خلاصه مقاله:

Objective(s): Production of effective tuberculosis (TB) vaccine is necessity. However, the development of new subunit vaccines is faced with concerns about their weak immunogenicity. To overcome such problems, polymers-based vaccine delivery systems have been proposed to be used via various routes. The purpose of this study was to determine the potential of polymeric particles as future vaccine delivery systems/adjuvants for parenteral and non-parenteral immunization against TB. Materials and Methods: PubMed, Scopus, Science-Direct, and the ISI web of knowledge databases were searched for related keywords. A total of ۴۲۰ articles, written up to June ۲۵, ۲۰۱۶, were collected on the potential of polymeric particles as TB vaccine delivery systems after parenteral and non-parenteral immunization. Thirty-one relevant articles were selected by applying inclusion and exclusion criteria. Results: It was shown that the immunogenicity of TB vaccines had been improved by using biodegradable and non-biodegradable synthetic polymers as well as natural polymers and they are better able to enhance the humoral and cellular immune responses, compared to TB vaccines alone. The present study revealed that various polymeric particles, after M. tuberculosis challenge in animal models, provide long-lasting protection against TB. PLGA (poly (lactide-co-glycolide)) and chitosan polymers were widely used as TB vaccine delivery systems/adjuvants. Conclusion: It seems that PLGA and chitosan polymers are well-suited particles for the parenteral and non-parenteral administration of TB vaccines, respectively. Non-biodegradable synthetic polymers in comparison with biodegradable synthetic and natural polymers .have been used less frequently. Therefore, further study on this category of polymers is required

کلمات کلیدی:

Mycobacterium tuberculosis, Non-parenteral immunization Parenteral immunization Polymeric particles Vaccine

لینک ثابت مقاله در پایگاه سیویلیکا:

