عنوان مقاله:

The Emerging Role of Chitosan-based Polymeric Nanoparticles in the Diagnosis and Treatment of Gynecological Cancers

محل انتشار:

مجله سرطان خاورمیانه, دوره 14, شماره 4 (سال: 1402)

تعداد صفحات اصل مقاله: 17

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خلاصه مقاله:

Breast and gynecological cancers are the most common malignancies in females. Early-stage detection and treatment could significantly reduce the mortality rate in patients. However, common treatments such as chemotherapy and radiotherapy fail after a while and lead to recurrence and drug resistance in cancer cells. The recent use of nanotechnology has enabled the development of novel approaches for diagnosing and treating oncological diseases. Chitosan-based polymer nanoparticles (CHPNPs) with unique properties such as non-toxicity, biocompatibility, and anti-carcinogenic effects are promising tools for the clinical development of targeted delivery systems. So far, various methods have been applied to use these nanoparticles in the diagnosis and treatment of various cancers. Identifying the most practical methods is one of the most important challenges in achieving effective treatments. A review of these studies can provide better horizons to realize effective treatment. In this review, we evaluate and discuss the use of CHPNPs from published literature to assess diagnostic and therapeutic strategies in breast and gynecological cancers, including ovarian and uterine neoplasms, as well as their advantages and challenges.

کلمات کلیدی:

Chitosan nanoparticles, Nanotechnology, Breast neoplasms, Ovarian neoplasms, Uterine Neoplasms

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/1819037