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Lipid based nanoparticles for treatment of CNS diseases: Review article

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Central Nervous System (CNS) is one of the most important organs which is managing so many functions in human body. So, impairment of its function may results in several disorders in body, or CNS diseases, which are considered very important. CNS diseases are divided into many different groups and each group is treated with its own related medication. Some drugs that are used for treating CNS impairments have disadvantages like short length effect, renal and digestive toxicities and restrictions in pharmaceutical form. Some other drugs may cause complications worse than disease itself so the scientist should find the ways to solve these problems.

Methods: First “Scopus”, “PubMed”, and “ScienceDirect” were searched with the keywords “CNS”. “CNS diseases” and “lipid based nanoparticles” and the whole articles were collected; then the most irrelevant and inappropriate articles was removed and 105 articles were remained; at the last section of article selection the best articles was selected from the 105 articles that were remained and the finally selected articles were reviewed and this article was written.

Results: The review of many important articles and summarizing them was shown that the scientists and drug designers have used many ways to overcome all or some of the disadvantages of the CNS drug delivery (as mentioned above) and they found that one of the best ways to fix these bugs is using lipid-based nanoparticles in nanotechnology field.

Recent Publications

1. Kanazawa T, Akiyama F, Kakizaki S, Takashima Y, Seta Y. Corrigendum to 'Delivery of siRNA to the brain using a combination of nose-to-brain delivery and cell-penetrating peptide-modified nano-micelles' [Biomaterials 34 (2013) 9220–9226]. *Biomaterials*. 2014;35(13):4247
2. Hwang SR, Kim K. Nano-enabled delivery systems across the blood–brain barrier. *Archives of Pharmacal Research*. 2013;37(1):24-30.5
3. Høgsberg T, Loeschner K, Löf D, Serup J. Tattoo inks in general usage contain nanoparticles. *British Journal of Dermatology*. 2011;165(6):1210-8.

Biography

Paria Aminroaia has her expertise in pharmaceutical and is passionate in improving the health and research. Her open and contextual evaluation model based on responsive constructivists creates new pathways for improving healthcare. She has built this model after years of experience in research, evaluation, teaching and administration in pharmaceutical companies. This approach is responsive to all stakeholders and has a different way of focusing.

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