



Review on Nano-Chemical Drug Carriers and Their Applications

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Abstract: This review deals with applications of nano-biochemical materials. Due to the failure of some conventional medical treatments to reach the most accurate tissue in the body, especially for cancer patients, many researchers have resorted to finding quick and therapeutic alternatives that directly treat tissue without leaving side effects, with a prior study of the toxicity of some types of nanoparticles in tissue therapy through nanocapsules. Ultra-fine and the capsule material is excreted after performing its tasks and is excreted with urine and excreta. Also, some biochemical treatments affect the stomach and others, so the researchers resorted to using a small nano-capsule that contains a mixture of treatment with a substance that helps to remove the excess from it with the exit, and thus they are substances that do not affect the rest of the body's other tissues or healthy tissues, if the body gets rid of the excess of them.

Keywords: Nano Applications, Nano medical, Nano Polymer, drug carrier.

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INTRODUCTION

Nano-chemical drug carriers and their applications are very important in delivering drugs through small nano-elements that reach places that cannot be reached through the use of drugs in the usual way, so we use the nano method in drug delivery. Nano-element treatment carriage focused continuously increasing prescription effectiveness besides to reducing toxin.

Polymeric Nano-elements

Polymer nano-elements are imitation branch compounds with a magnitude of (about:10 to 100) nanometers. Mutual artificial branch-nano-compounds embrace poly-parts, poly acrylate, Repetition of Particles of un hydrated Stencils (PRINT) that allow the conformation, dimension and character of nano-elements to be customized using small templates, To build on what has been achieved, and ultimately to find effective treatments

for diseases. She added in an interview with "Science", that what distinguishes this study is that it focused on a relatively new field, which is the "targeted treatment" of cancer by nanotechnology, a field that is still in the process of laboratory experiments, and needs more research and in-depth, to monitor its side effects, and its advantages, before actual application to humans in clinical trials. She explained that the study provided a vision and an in-depth reading of what has been reached in this field, and extracted the most prominent receptors that increase production in liver cancer cells, and effective chemical treatments that can target them, and explained the ways in which drug doses can be transferred through nanometric materials, which precisely target cells. Cancer in the liver, thus increasing the effectiveness of the treatment and decreasing its side effects. What is distinctive is that it presented the most important challenges facing this type of treatment, and concerns about its side

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effects; for consideration in future experiments [8-11].

Mechanism of Drug Delivery in the body

Nanotechnology is a boom and advancement in the medical field with the ability to deliver drugs to specific cells using nano-elements. Targeted or personalized medicine reduces prescription ingesting and behavior expenses that exhibited first-order motility (blood concentration rises rapidly, but declines weakly over time). This hasty intensification possibly will source complications with poison also prescription inefficiency that may stay diminished by the prescription deliberation being lower than required [12-16].

The role of nano-elements in the treatment of malignance ous tumors

The connection and association of several functional groups with the nanoparticle, which may seek to bind to some malignance tissues. This combined with the minor dimensions of the nano-elements (about :10 to 100 nanometers) permits these particles to differently collect at malignant malignance locations (for the reason that lumps deficiency an operative lymphatic drainage coordination). An thrilling investigation interogation is in what way these photo of nano-elements can be used to treat malignance ous tumors. For a moment, we wonder, is it imaginable to creation and produce several purposeful nano-elements that have the ability to perceive, doppelgänger and advance to delicacy that growth? It is a question at the center of active research and investigations. Where the answer to that question may determine the features of the next years of malagent management. That is about to one day replace radiotherapy and chemotherapy in treating malignance ous tumors. They conducted research under the supervision of Professor "Jennifer Witt" on the use of gold-plated 120 nanometer scales to kill malignance ous tumors in mice. The goal of using these nano-elements is to bind to malignance tissues by unifying and binding antibodies or peptides to the surface of the nano-elements. Exposing the area affected by the malignance ous tumor to radiation using infrared laser beams that penetrate the meat without heating it, results in the gold being heated enough to cause the death of malignance tissues. This is in addition to John Kanzis' invention of a radio frequency machine that uses a mixture of radio waves and carbon or gold nano-elements to terminate malignance tissues.

Cadmium selenide nano-elements

The Becker attached the folic acid to some of these hooks (the body cells receive this folic acid, which is a vitamin). Because malignance tissues

have more receptors than normal cells inside the body for the vitamin, the dendrimer molecule loaded with the vitamin is absorbed by those malignance tissues. Whereas, Becker attached the rest of the dendrimer hooks to anti-malignance therapies that would be absorbed as the dendrimer was absorbed into the carcinogenic cell, resulting in the malignance drug being delivered to the malignance tissues without any other means. In photodynamic therapy, a particle is placed inside the body and illuminated by light from the outside [24-27]. The particle absorbs the light, and if the molecule is metal, the energy from the light heats the particle and the surrounding tissue as well. Light is also used to produce high-energy oxygen molecules that will chemically react with and destroy most of the organic molecules around them (including tumors). This treatment is attractive for several reasons. It leaves no "toxic attempt" for the reactive particles via the organization (radio-treatment), since they are fast process [28]. Photodynamic therapy has a non-expansive ability to deal with diseases, growths and tumors.

Chemical synthesis of medical nano-elements

The European Commission's Directorate of Health and Consumer Protection have begun to deal treatment that is containing these particles have been subject to any special legislation related to the production, handling and classification process. In addition, the Product Safety Information Sheet, which must be issued with the production of some materials, does not distinguish between macro and micro-volumes of the material in question or even when such sheets are only advisory. The process of classifying and organizing nanotechnology may exacerbate the social health and to ensure that public desires are incorporated into shaping the nanotechnology development process. During the development of hepatocellular carcinoma, it was found that most of these receptors are a normal part of the plasma membrane components of healthy liver cells, but they are present in large quantities, and their width increases only on the surface of cancer cells." He added, "From here came the idea of studying the composition of these receptors for use in targeting malignant cells, as the study focused on monitoring 6 types of receptors in detail, their chemical composition and different forms, and the advantages and disadvantages of using each type, such as inaccuracy or lack of quality." The study focused on 3 main aspects, namely: determining the most effective chemical drugs in the treatment of liver cancer, the most common receptors, in addition to the most chemical ligands, which ensures the development of a complete plan for treatment, as a prelude to further studies.

Limitations of Nanomaterials in Bio-Chemical Applications

Beyond the risks associated with first-generation nanotechnology that affect both human health and the surrounding environment, there are a broader set of social impacts that pose more broad-based social challenges. Sociologists have suggested that the social issues associated with nanotechnology should be understood and evaluated in a not simple way. It is not seen as just a set of ongoing impacts or risks. Instead, such challenges should be taken into account as "downstream" that it is aligned with common goals. It has been assumed by many social scientists as well as civil society organizations that the process of technology assessment and management should include public participation of citizens. Hence, the issue of social risks of using the minuscule technique arose. At the most basic level, these risks include the potential for military applications of nanotechnology (for example, the use of implants and other means to support and enhance recruits as in the MIT Institute for Nanotechnology Recruiters) as well as increased surveillance capabilities. Enhanced by the use of nanosensors. The past few years have seen a significant push in the call for patents in the field of nanotechnology. In 2003, no less than 800 patents related to the field of nanotechnology were granted. Various bodies are currently seeking wide-ranging patents in addition to various nanodiscoveries as well. For example, NEC and IBM have obtained major patents in the field of carbon nanotubes. Nano, and directing it to cancer cells, allowing the drug to be collected inside the targeted malignant cells without harming the rest of the body's healthy cells. He added, in an interview with "Science": Medical nanotechnology (Nanomedicine) is one of the modern medical technologies that are used in the diagnosis, treatment and prevention of several diseases, and it simply depends on the use of nano-sized therapeutic or diagnostic materials, ranging in size from 1- 100 nanometers (1 millimeter equals

one million nanometers). Abdel Rahman Abu Shouk, a researcher involved in the study, at the Medical Research Center

The quality of nanomaterials technology

The reorganization matter at the molecular or atomic level. When it comes to the dangers of molecular manufacturing, the most frequently cited worst-case scenario is "gray goo," a hypothetical material transformed by the self-replicating of the messy-running nanobots on the Earth's surface. Freitas analyzed this perception in his research study "Some Limits to Global Ecophagy by Biovorous Nanoreplicators, with Public Policy Recommendations" . Where a different scenario called Green Go emerged with bio-nanotechnology solutions. The nanobots here are not the malicious matter, it caused by these products? The scope of the expected damage is wide and wide, ranging from supersonic VIP aircraft flying at low altitudes, injuring a large of them. It is still too early to decide whether there is an economic incentive to do so. Despite this, it seems that this problem needs to raise concerns and concerns about it due to the large number of activities and targets that spoil the environment if they start with their ends, or if they easily start with the ends of molecular manufacturing. The sum of some of the individual acts may also result in the emergence of some forms of harm as well, each of which is not harmful in itself. It is difficult to prevent this kind of damage by persuasion, and laws are also ineffective in such situations; however, a central ban on the technology itself may be a necessary part of the solution to that problem. In conclusion, the heavy incorporation of nanomachines will result in the use of nanoproducts, the dose of ethyl containing different types of nanoelements, which was administered to lab mice over a period of six months, was characterized by the Skovkajer Index, and named after the scientist Kasper Skovkjaer Figures (1-8).



Fig-1: Nano-carriers

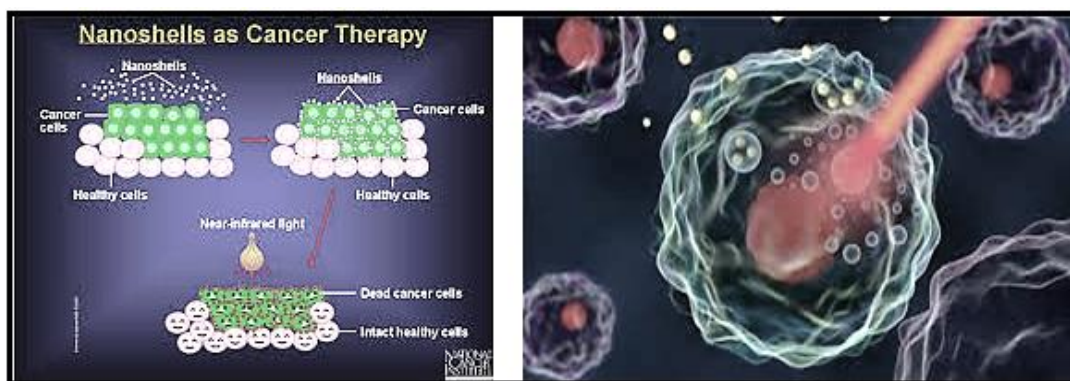


Fig-2: Nano-carriers as malignance Treatment

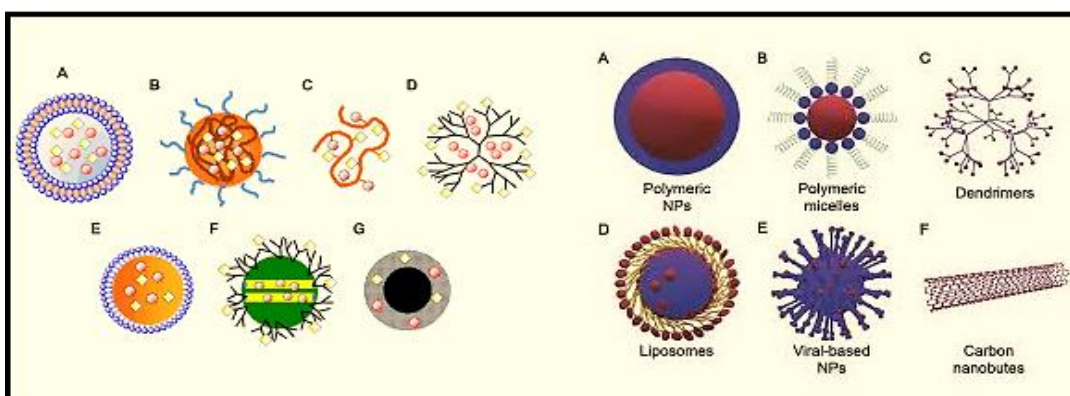


Fig-3: Types of Nano-carriers from nano-polymer

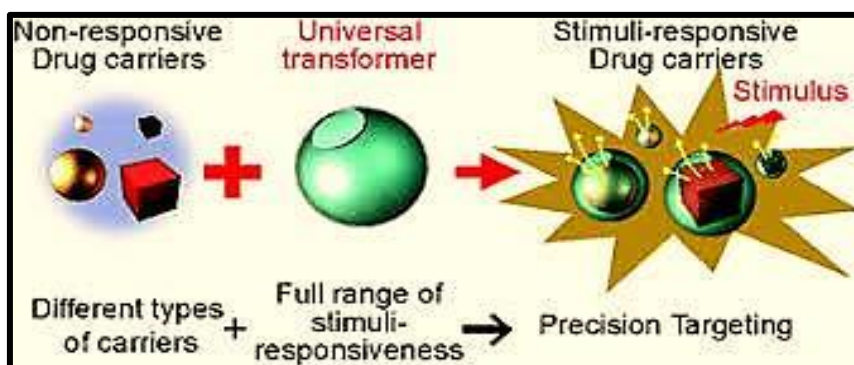


Fig-4: Different types of Carriers

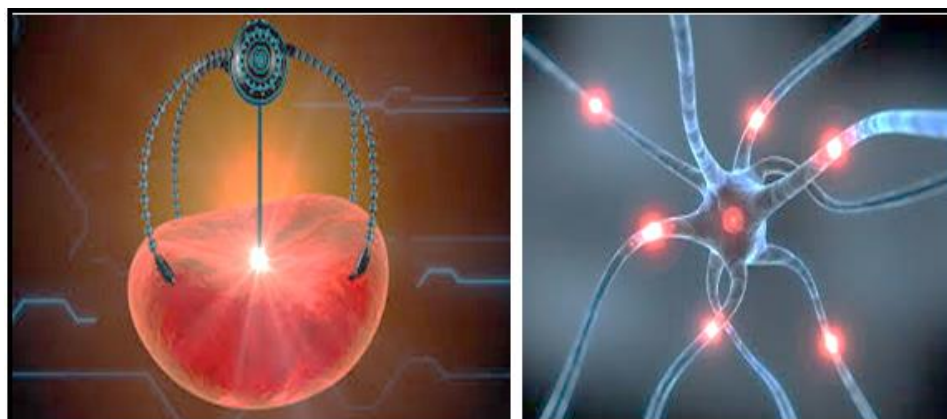


Fig-5: Nano-Camera for detection

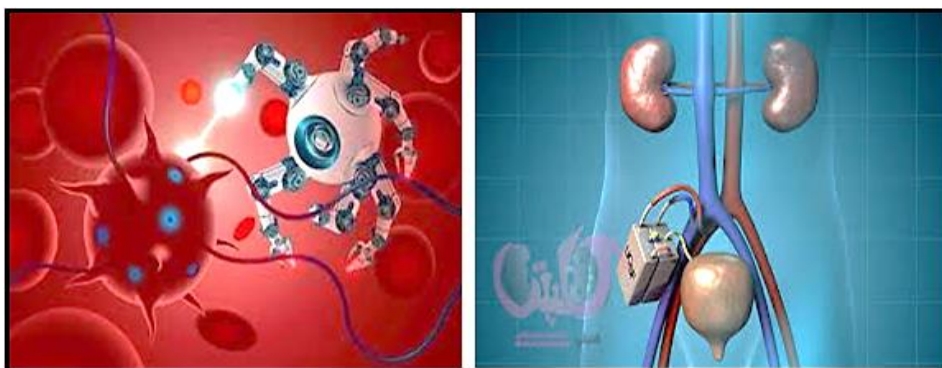


Fig-6: Nano-Device in Treatment of Kidney

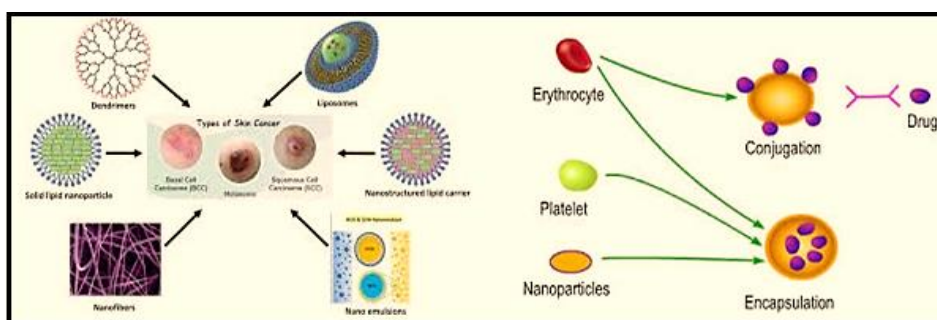


Fig-7: Nano-Carriers to Target Tissue



Fig-8: Nano-Almas to Detection of Tumors

CONCLUSION

The natural besides therapeutic exploration groups obligate benefited from the exclusive belongings of nano-elements associated with innumerable requests (eg dissimilarity mediators for compartment imaging in addition malignance therapies). Hence, relationships like bio-applications of nano-elements, nano-radical treatments began to be used to designate same broad ground.

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