Guest Editorial

FICTION TURNING INTO REALITY: NANOROBOTS IN DENTISTRY

Now-a-days extensive work of research is going on the role of Nanorobots in dental profession. "Nano" is derived from the Greek word for 'dwarf'. Nanotechnology is the science of manipulating matter measured in the billionths of meters or nanometer, roughly the size of 2 or 3 atoms.

The various Nanoparticles are Nanopores, Nanotubes, Quantum dots, Nanoshells, Dendrimers, Liposomes, Nanorods, Fullerenes, Nanospheres, Nanowires, Nanobelts, Nanorings, Nanocapsules. Dental nanorobots might use specific motility mechanisms to penetrate human tissue with navigational precision, acquire energy, and sense and manipulate their surroundings in real time. An onboard Nanocomputer that executes preprogrammed instructions in response to local sensor stimuli could be utilized to control the Nanorobot functions.

Nanodentistry will make possible the maintenance of comprehensive oral health by employing nanomaterials, including tissue engineering, and ultimately, dental nanorobots. New potential treatment opportunities in dentistry may include: local anaesthesia, dentition renaturalization, and permanent hypersensitivity cure, complete orthodontic realignments during a single office visit, covalently bonded diamondised enamel, and continuous oral health maintenance using mechanical nanorobotic dentifrice (dentifrobots). There is a great hope that Nanotechnology will change dentistry, healthcare, and human life more profoundly than many developments of the past, as they have a potential to bring about significant benefits, such as improved health, better use of natural resources, and reduced environmental pollution. Molecular technology is destined to become the core technology underlying all of 21st century medicine and dentistry.

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