

ROLE OF MULTI-FUNCTIONAL THERANOSTIC NANO-PARTICLES IN HEAD AND NECK ONCOLOGY

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INTRODUCTION:

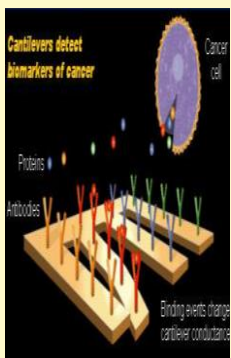
Nano-technology shows tremendous potential to replace highly invasive oral cancer detection and treatment methods

RESULTS:

Applications of nano-technology in oral



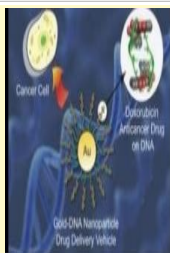
Saliva nanosensor test



cantilever biosensor array test



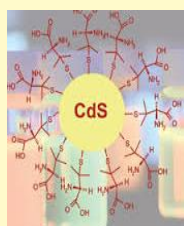
Figure 7: Delivery of nano medicine to CNS through BBB



nano-robots-drug delivery

MATERIALS AND METHODS:

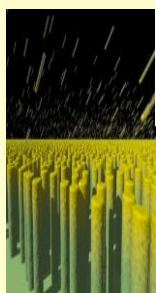
160 Pub-med, Cochrane, IJOMS, BJOMS, JOMS articles were reviewed till August 2017, key words used were 'nano-technology' and 'head and neck cancers'.



Cadmium nanoparticles – accurate tumor excision



Photodynamic therapy along with nanoparticles



Silica nanowires-biomarkers

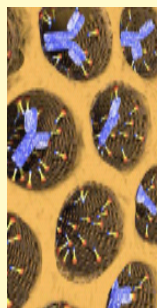


QUANTUM DOTS

- *Sentinel node biopsy
- *clear tumor margins-Image guided surgery



Break-through pain management



BrachySil-brachytherapy



Genistein nano-emulsions pre-op and maintenance therapy

CONCLUSION:

Nanotechnology is still a nascent science and further clinical trials are required to determine safety and efficacy, to improve drug-delivery modules, drug dosing and to translate research concepts into personalised cancer therapy.

REFERENCES: Parvanian, S., Mostafavi, S.M. and Aghashiri, M, 2017. Multifunctional nanoparticle developments in cancer diagnosis and treatment. Sensing and Bio-Sensing Research, 13, pp.81-87.

CONFLICTS OF INTEREST:NONE