34. Title: Ocular drug delivery system (Ranibizumab)

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Domain: Healthcare (Medical Device)

Keywords: Drug delivery, Ophthalmic port

Summary:

Drugs like Ranibizumab and Bevacizumab used for the treatment of AgeRelated Macular Degeneration are administered through intra-ocular injection, which needs to be repeated at regular intervals. The re-injection procedure has various drawbacks. For instance, the patient has to undergo a painful procedure of injections that pierce the ocular tissues every time of drug administration. The current technology relates to a novel, minimally invasive intraocular drug delivery port device. The device/chemoport reduces the need of repeated piercing of the ocular tissues. The device also aims at providing a sustained release of the drug over a period of time.

Figure: Ocular Drug delivery device

Advantages:

- It is less painful drug delivery as it does not need to pierce the biological layers every time for the drug administration.
- It can be used for sustained release of the drug over a period
- It can used to inject intraocular newer monoclonal antibody-based retinal therapies which need unending, lifelong injections at regular intervals.
- It can used to inject intraocular Chemotherapeutic agents such as methotrexate in cases of intraocular lymphoma
- Cost effective, compact, convenient
- Less risk of endophthalmitis caused by repeated injection
- Patient compliant

Applications: Healthcare

Scale of development: Prototype developed, Preclinical done, Clinical trials to be initiated

Technology Readiness Level: 5

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