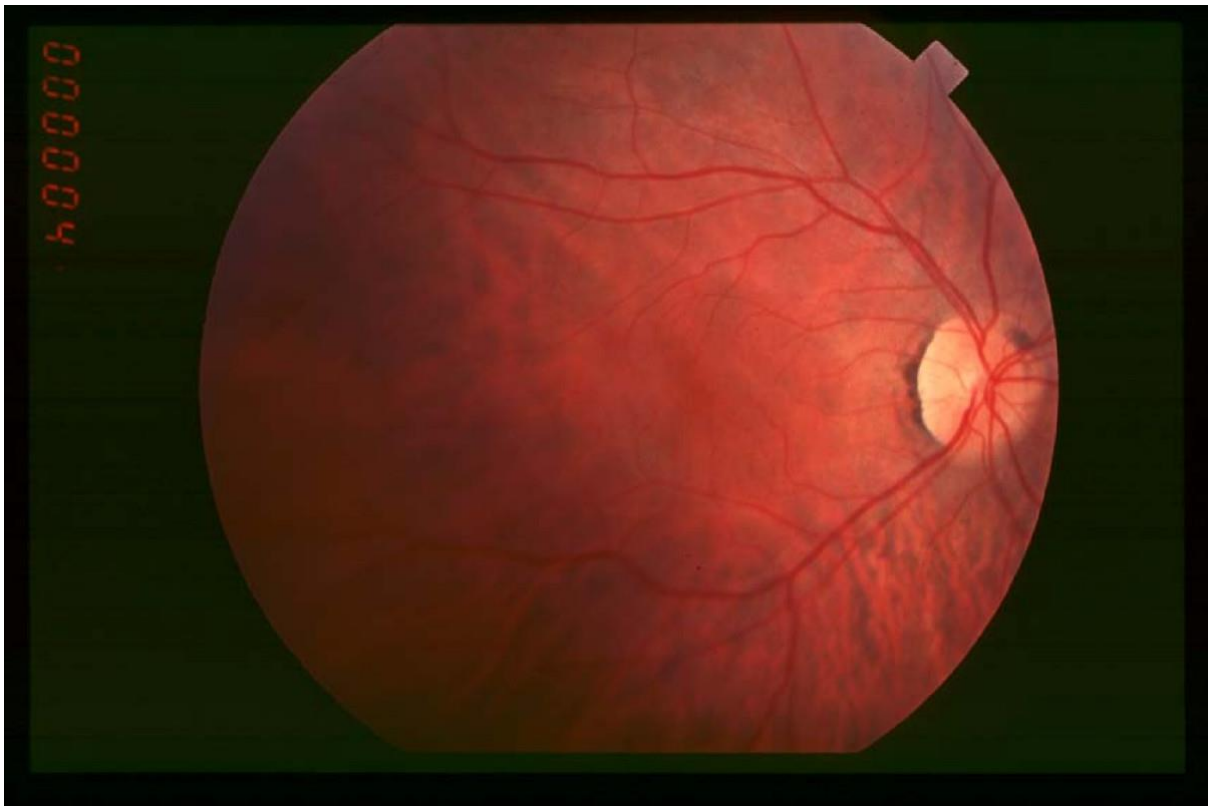
DBT-NII study may pave way for a treatment for Retinitis Pigmentosa

New Delhi. Nov 13: Retinitis Pigmentosa (RP) is a heritable ocular disease. It causes progressive photoreceptor degeneration due to genetic mutation. Cell therapy is one of the most promising therapeutic interventions for it.



In a new study, a team of researchers at DBT-National Institute of Immunology (DBT-NII), New Delhi, have demonstrated that peripheral blood derived monocytes which are highly abundant and accessible, could be utilized as a potential candidate for phenotypic differentiation into neuron-like cells.

The monocytes were reconditioned phenotypically using extrinsic growth factors to induce pluripotency and proliferation. They were then incubated with a cocktail of growth factors involved in retinal development and growth to induce retinal neuron-like properties. These cells were characterized for their morphological, molecular and functional behaviour in vitro and in vivo.

The proof-of-concept study demonstrates that peripheral blood derived monocytes can be induced to acquire retinal neuron like properties through differentiation using a defined growth media and can be a potential candidate for cell therapy-based interventions and disease modelling for ocular diseases.

The research paper: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7510317/

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Link: http://www.nii.res.in/