

Review on Genetic Level Therapy for Neonatal Problem

Sahil V. Nandurkar¹, Farah Khan², Sushmita W. Gajbe³, Sakshi P. Bawankule⁴

Students, B Pharmacy, New Montfort Institute of Pharmacy, Ashti, Wardha^{1,3,4}

Asst. Prof. New Montfort Institute of Pharmacy, Ashti, Wardha²

sahilnandurkar184@gmail.com

Abstract: *This review paper explores novel techniques to treat genetic illnesses, congenital malformations, and other conditions affecting neonates, and it explores the potential field of genetic-level therapy for tackling neonatal difficulties. Gene therapy is a potent tool for addressing genetic disorders at their source since it makes use of cutting-edge methods like genome editing and CRISPR/Cas9. In addition, the use of RNA therapies, such as antisense oligonucleotides and mRNA, offers a flexible way to implement targeted interventions. One promising area for controlling gene expression and treating newborn illnesses is epigenetic alterations. This work highlights the results, difficulties faced, and lessons discovered from using genetic-level medicines in neonatal care through a review of successful case studies.*

Keywords: Newborn, Genetic Therapy, Neonatal, Treatment, gene.

REFERENCES

- [1]. <https://medlineplus.gov/genetics/understanding/basics/gene/>
- [2]. <https://www.genome.gov/genetics-glossary/GeneTherapy#:~:text=Gene%20therapy%20is%20a%20technique,healthy%20version%20of%20that%20gene>
- [3]. https://en.wikipedia.org/wiki/Gene_therapy#:~:text=Gene%20therapy%20may%20be%20classified,gametocyte%20C%20or%20undifferentiated%20stem%20cell
- [4]. <https://www.msmanuals.com/en-in/home/children-s-health-issues/general-problems-in-newborns/overview-of-general-problems-in-newborns>
- [5]. <https://chat.openai.com/c/89110ec0-3c45-4b14-beb7-484b4aaecd1a>
- [6]. <https://pubmed.ncbi.nlm.nih.gov/9240965/#:~:text=Because%20of%20the%20minimal%20adverse,in%20older%20children%20or%20adults>
- [7]. <https://www.fda.gov/vaccines-blood-biologics/cellular-gene-therapy-products/what-gene-therapy>
- [8]. <https://medlineplus.gov/genetics/understanding/genomicresearch/genomeediting/>
- [9]. Randall A. Meyer a , Sarah Y. Neshat "Materials Today Advances" R.A. Meyer, S.Y. Neshat, J.J. Green et al. 29 March 2022
- [10]. Harayama T., Riezman H. Understanding the diversity of membrane lipid composition. *Nat. Rev. Mol. Cell Biol.* 2018;**19**:281–296.
- [11]. Honig B.H., Hubbell W.L., Flewelling R.F. Electrostatic interactions in membranes and proteins. *Annu. Rev. Biophys. Biophys. Chem.* 1986;**15**:163–193.
- [12]. Handy DE, Castro R, Loscalzo J. Epigenetic modifications: basic mechanisms and role in cardiovascular disease. *Circulation.* 2011 May 17;123(19):2145-56.
- [13]. <https://www.frontiersin.org/articles/10.3389/fnmol.2021.695937/full>
- [14]. <https://chat.openai.com/c/89110ec0-3c45-4b14-beb7-484b4aaecd1a>
- [15]. <https://chat.openai.com/c/89110ec0-3c45-4b14-beb7-484b4aaecd1a>