Migraine Treatment Using TRNA Approach for Teenager Patient Using Vesicular Gel

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Introduction

- Migraine is a neurovascular disorder
- Worldwide, migraines affect more than 10% of people and In developing countries of Asia migraine prevalence was found to be 10.1% in 2017
- About 4% of boys and girls in pre pubertal age suffer from migraine. As children get older there is a predominance among girls
- 73 % migraines found with nausea

New Approach

Topical regional neuro-affective (TRNA) therapy with vesicular gel delivery:

- Contrain : Stratum corneum barrier
- Vesicular Elastic Drug Delivery Approach

METHODOLOGY

- Preliminary Formulation
  - Pluronic F127 and cholesterol mixture[P:C] dissolve in chloroform
  - RBZ dissolved into Phosphate buffer pH 6.8
  - Add chloroform mixture dropwise through 16 guage needle into above solution
  - Evaporate chloroform on magnetic stirrer at 65°C.
- Polymersomes formed
- Optimisation by factorial design 2^n

RESULTS & DISCUSSION

- Preliminary Formulation
  - EE = 59.81 ± 2.770 A × 0.1190 B × 0.01182 C
  - The equation of multiple regression revealed that there was no significant interaction among factors
  - The molar ratio of Polymer : cholesterol had prominent positive effect on entrapment efficiency
  - Formulation PV8 having P:C as 3:1 ratio, 80 min of stirring time and stirring speed 900 rpm found to be optimized formulation with maximum % EE as 81.21 ± 1.36

CONCLUSION

The results obtained in this research work clearly indicated a promising potential of polymersome carrier system of RBZ for migraine treatment with targeted topical approach.