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**A modified formulation approach for the novel combination of Nifedipine and Lignocaine HCL for the effective treatment of hemorrhoids****R Suresh Kumar**

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Hemorrhoids are one of the most common ailments where the lowest part of rectum and anus veins swollen. It is estimated that about 75% of people will have hemorrhoids at some point in their lives. Modern therapies for hemorrhoids include various nonsurgical and surgical options with a trend towards outpatient procedures and day case surgery. In the present study, we hypothesized that the combination of topical Nifedipine to Lidocaine loaded nanoemulgel would improve pain control by causing a relaxation of the smooth muscle of the internal anal sphincter where it relieves the symptoms of pain by the effect of analgesic action due to Lignocaine and wound healing by Nifedipine. Initially nanoemulsion was prepared optimized by pseudo tertiary phase diagram. The optimized formulation was incorporated to gel base to form nanoemulgel. The formulated nanoemulgel was smooth, shiny and homogenous with pH of 5.9, viscosity of 3541 cps, spreadability of 40 gm.cm/sec, extrudability of 9 gm/cm<sup>2</sup> and bioadhesion of 4 kg/cm<sup>2</sup>. Drug content of optimized formulation was found to be 98.17% (Nifedipine) and 97.04% (Lignocaine HCl). *In vitro* study was performed and the nanoemulgel showed a cumulative drug release of 41.12% (Nifedipine) and 45.41% (Lignocaine HCl) at 360 min. The nanoemulgel was found to be stable upon storage for 3 months, no major change was observed in their physical appearance, pH and rheological properties with pharmaceutically acceptable and more economic with improved topical formulations for the treatment of anal fissure for better life of the effected patients.

**Biography**

R Suresh Kumar has completed his PhD from Jagadguru Shri Shivaraathreeshwara University Mysuru (JSS University), India. He is the Coordinator at Department of Pharmaceutics in JSS College of Pharmacy, India. He has published more than 25 papers in reputed journals and has been serving as an Editorial Board Member of reputed journals.

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