PREPARATION AND EVALUATION OF GEL-EMULSION WITH MELOXICAM

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INTRODUCTION

Meloxicam is one of the most potent non-steroidal anti-inflammatory drugs, generally indicated for treatment of rheumatoid arthritis, osteoarthritis and juvenile arthritis and commercially available in form of tablets and suspension with recommended daily dose 7.5-15 mg. Unfortunately, long-term administration usually in higher doses is associated with increased risk of gastro-intestinal bleeding, cardiac arrest and stroke. An alternative approach to overcome these limitations is design of topical forms. The aim of this study is characterization and evaluation of gel-emulsion with meloxicam.

EXPERIMENTAL

Methods

Formulation of w/o emulsion

Formulation of gel base

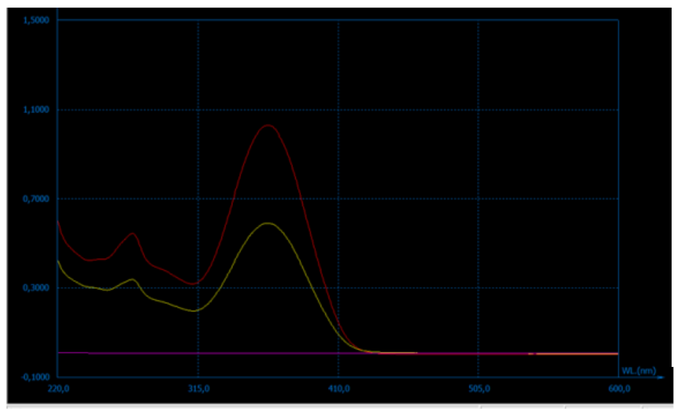
Incorporation of gel base into w/o emulsion

UV/VIS

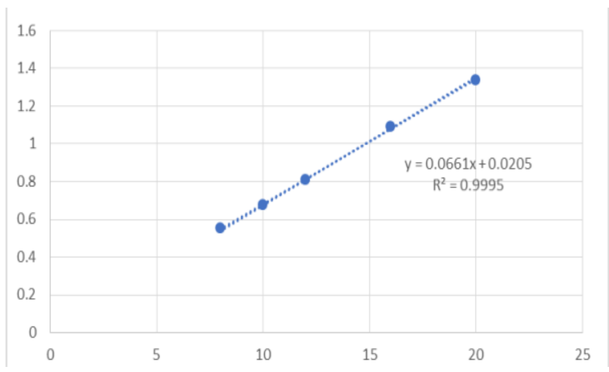
Viscosity assay

Microbiological examination

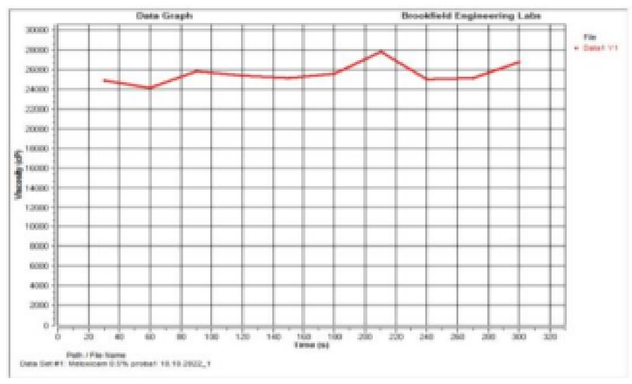
Composition	
Water phase	
Tween 60	1 g
Aqua purificata	q.S
Oil phase	
Liquid paraffin	15 g
Span 60	2 g
Meloxicam	0.5 g
Propylene glycol	15 g
Menthol	1g
Gel base	
TEGO® Carbomer 134	1 g
Triethanolamine	1.5 g



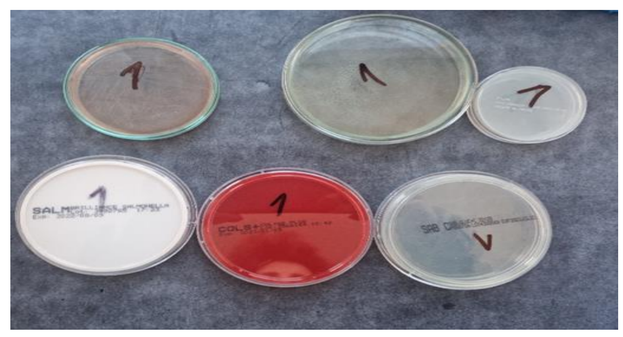
Identification of meloxicam in gel-emulsion at 362 nm Standard solution (yaellow), gel-emulsion with meloxicam (red)



Standard curve of meloxicam at 362 nm



Viscosity of gel-emulsion with meloxica at 25oC, speed 20 rpm, spindle RV6



Microbial examination of meloxicam gel-emulsion

Parameter	Results
Drug content	103,8 %
pH	5.82
Viscosity	25 500 cP
Spreadability	7.8 cm

Conclusion: Even though gel-emulsion was stable and pharmacologically active for topical application, however, further investigations are needed in order to determine safety and security of developed formulation.