

NOVEL STRATEGY FOR THE FORMULATION OF POORLY WATER-SOLUBLE DRUGS: NYSTATIN MICROENCAPSULATION.



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Introduction.

In recent years, a growing concern about resistance to anti-infective agents has emerged. One of the most common microbial agents is:

Candida albicans

→ Can cause infections of skin and mucosal tissues → Treatment →

NYSTATIN

PROBLEMS
Photosensitive
Very poorly soluble in aqueous media
Poor absorption

SOLUTION¹⁻²

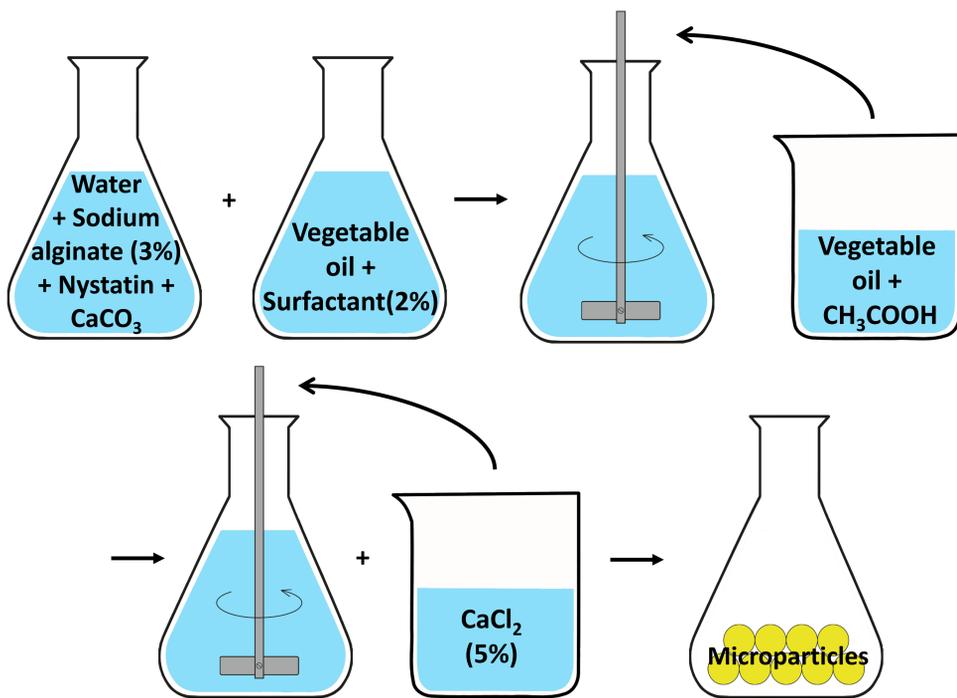
MICROENCAPSULATION

Objetive.

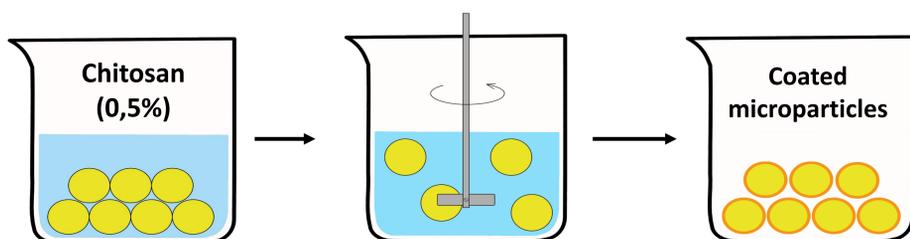
Design, develop and characterize two types of microparticles as appropriate nystatin delivery systems for topical use: alginate microparticles (AM) and chitosan coated alginate microparticles (CCM).

Materials and methods³.

Synthesis of microparticles.



Coating procedure.



Results.

| | AM | CCM | |
|-------------------------|---------|-------|-------|
| Mean particle size (µm) | 51,21 | 57,20 | |
| PY (%) | 83,26 | 79,67 | |
| LD (%) | Inside | 6,78 | 4,87 |
| | Surface | 0,40 | 0,91 |
| EE (%) | Inside | 81,12 | 85,08 |
| | Surface | 12,07 | 9,18 |

Table 1. Mean particle size and average percentage yield (PY), loading capacity (LD) and encapsulation efficiency (EE).

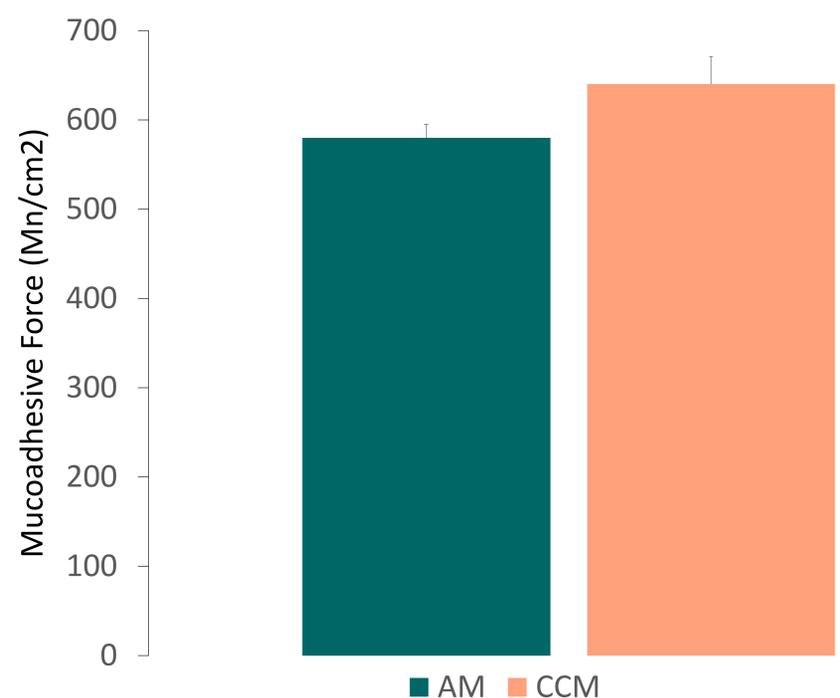


Fig. 2. Mucoadhesive force for alginate microparticles (AM) and chitosan coated microparticles.

CCM was the system that exhibited the best mucoadhesive properties.

Conclusions.

The ability of these systems to adhere mucous membranes has great appeal for the treatment of localized infections. Thus these microparticulate systems could be proposed as a suitable vehicle for this kind of mucosal infections being an alternative therapy.

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