STUDY ON THE MORPHOLOGICAL CHANGES OBTAINED WITH POLYMERIC MATRIX OF CONTROLLED LIBERATION

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The encapsulation of drugs is a widely extended field. The objective of encapsulation is to control the liberated drug which allows getting higher effectiveness and efficiency on its administration. The supports used in these encapsulation processes can be polymers, hydrogels, liposomes and inorganic materials.

For the present paper, a study was conducted about the nanostructure material morphology obtained from organic matrix, specifically with polymers of controlled liberation. The used polymeric matrix are copolymers of acrylic and methacrylic acid esters with a low content in quaternary ammonium groups and is commercialized by the company Röhm Pharma, known by the name Eudragit RL-PO. The nanostructure materials were obtained through the modified double emulsion technique.

All of the samples were observed with transmission electron microscopy (TEM) that made it possible to find differences in their size as well as in their shape, which can be attributed to the matrix used and to the solvent used in the dispersion of the nanostructure material. In general, little sphericity and more agglomeration was observed in the samples treated with solvents, while when they were treated with aqueous means of pH7, higher sphericity and less agglomeration was found.