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Preparation of Bovine Serum Albumin Microspheres Containing Dexamethasone Sodium Phosphate and the in Vitro Evaluation

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Abstract: Dexamethasone sodium phosphate (DSP) is the most common corticosteroid used in the treatment of edema paired with brain tumors (1, 2). As with other corticosteroids, DSP has some adverse effects on the cardiovascular, immune and nervous systems. The objective of this study was to minimize the adverse effects of DSP and to extend the release time of the drug from microspheres by encapsulating with Bovine Serum Albumin (BSA). The microspheres were prepared by emulsion polymerization. An aqueous solution of glutaraldehyde (25% w/v) was used as the crosslinking agent in two different amounts. The release time DSP was found to be extended in the series containing 15% DSP with the increase in the amount of glutaraldehyde used. Also it was observed that the release time is extended in series prepared using 0.5 mL glutaraldehyde with the amount of DSP.

Key Words: Dexamethasone Sodium Phosphate, BSA Microspheres, In vitro Evaluation.

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