



## Delivery of Antihypertensive Drug Through Synthesized Hydrogel Network, a Comparative Study

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**SUMMARY.** The present study aims at developing synthesized (PVA-co-PAA)/NaCl normal hydrogel(H), hydrogel microspheres(HM) and comparing the antihypertensive activity of Diltiazem hydrochloride(DL) from two formulations. The hydrogel microspheres were crosslinked by using glutaraldehyde-saturated toluene. The hydrogel showed more swelling in simulated intestinal fluid (SIF). (PVA-co-PAA)/NaCl HM formulation A1 showed comparatively higher entrapment (79%) and better control over DL release. In normotensive rats, HM formulation A1 found more effectively in reducing blood pressure to 40.1%. The experimental results demonstrated that (PVA-co-PAA)/NaCl HM had the greater potential than normal hydrogel to be used as a drug carrier.

**KEY WORDS:** Drug delivery, Hydrogel microspheres, Normal hydrogel, Stability, Swelling.

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