Objective of the Present Investigation

The present study is focusing towards the development of extended release formulations of Atenolol based on osmotic technology. Osmotic tablet can deliver drug at zero order for 24 hr. Drug release of osmotic tablet is also unaffected by pH so, it can deliver drug at constant rate in whole GIT. Matrix tablet is also used for delivering drug at zero order but its performance is affected by pH of release media. Earlier research was successfully carried out but the problem was found that Laser drilling and micro-drilling were very complicate and costly approaches for preparation orifice. In push pull osmotic tablet, very high number of excipients used and for the preparation of core tablet special tablet machine is required. So it is also a costlier approach for preparation of osmotic tablet. So controlled porosity osmotic tablet is best preferred method for Atenolol. That is why the aim and selection of controlled porosity osmotic tablet for extended release formulation of Atenolol.

Controlled porosity osmotic tablet has many advantages over the other osmotic systems. In this type of tablet there is no need to prepare delivery orifice by laser drilling or micro-drilling. So cost of preparation of this osmotic system is low. Drug release is achieved through pores formed in situ after coming into contact with dissolution media. Coating contains hydrophilic polymer which leaches after coming into contact with dissolution media and leaving behind pores through which drug release is achieved. In this type of osmotic tablet drug release is achieved through whole surface of tablet, so gastric irritation problem is also avoided. Drug release from controlled porosity osmotic tablet is unaffected by pH and agitation intensity. So controlled porosity osmotic tablet is selected method for preparation of extended release Atenolol formulation.