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Buccal Patches: Advancement in Oral Drug Delivery System

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Buccal administration of drug provides a convenient route of administration for both systemic and local drug actions. The preferred site for retentive oral transmucosal delivery systems and for sustained and controlled release delivery device is the buccal mucosa. Rapid developments in the field of molecular biology and gene technology resulted in generation of many macromolecular drugs including peptides, proteins, polysaccharides and nucleic acids in great number possessing superior pharmacological efficacy with site specificity and devoid of untoward and toxic effects. However, the main impediment for the oral delivery of such drugs as potential therapeutic agents is their extensive presystemic metabolism, instability in acidic environment resulting into inadequate and erratic oral absorption. Direct access to the systemic circulation through the internal jugular vein bypasses drug from the hepatic first pass metabolism leading to high bioavailability. The extensive efforts have recently been focused on targeting a drug or drug delivery system in a particular region of the body for extended period of time to get the desired benefit, not only for local targeting of drugs but also for the better control of systemic drug delivery. The objective of this article is to review the developments in buccal adhesive drug delivery system as patches.