

9TH ANNUAL EUROPEAN PHARMA CONGRESS

June 26-28, 2017 Madrid, Spain

Formulation and characterization of *Piribedil* buccal tablets

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Piribedil is a piperazin derivative drug used in the treatment of Parkinson's disease. Orally administrated *piribedil* has low bioavailability (10%) accompanied with gastrointestinal and cognitive side effects. Buccal tablets are thin and flat tablets with 5-8 mm diameter which are applied to the oral mucosa in the mouth cavity. This route of administration increases bioavailability of drugs by eliminating the hepatic first pass effect and reduces side effect risks with controlled release by lowering the required dosage. In this study, buccal tablets were prepared by using three different polymers; carbopol (CP), hydroxypropyl methylcellulose (HPMC) and carboxymethyl cellulose (CMC) at three different concentrations to achieve controlled release. Physicochemical properties of powder and tablet formulations were investigated and dissolution studies were conducted. These tablets were also subjected to stability studies for 6 months at 40±2°C and 75±5% relative humidity. Physical characterization results were satisfactory and met compendial limits for all formulations. Slowest drug release was observed with CP followed by HPMC and CMC respectively. Drug release kinetics displayed diffusion-polymer relaxation for CP and HPMC and diffusion-tablet erosion for CMC tablets. Piribedil was found to be compatible with other tablet ingredients and tablets retained physical properties after 6 months of stability studies. Buccal tablets containing piribedil designed for the first time may serve as a new alternative for the Parkinson's disease treatment.

Biography

Burak Çelik has completed his graduation from Faculty of Pharmacy at Yeditepe University and PhD from Istanbul University, Department of Pharmaceutical Technology. He is currently working at Bezmalem Vakıf University, Faculty of Pharmacy as a Research Assistant.

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