Buccal tablets were designed to deliver 5-FU locoregionally to the cancer lesions of the oral cavity. Tablets were prepared using a drug loaded matrix of acrylic methacrylic acid copolymer containing 3% (w/w) of 5-FU and applied on 3D outgrowths. Drug release from tablets appeared to be sufficient to induce cell death as effectively induced cell death with complete eradication of cell colonies.

Conclusion: As our results suggest, buccal matrix tablets could be considered a viable alternative for chemotherapy in the oral cavity. Further studies are needed to evaluate the long-term effects of this method and to determine its safety profile.

Relevance: The use of buccal tablets offers several advantages over traditional chemotherapy methods, including reduced systemic toxicity and improved targeting of the tumor site.

**Methods:**

- **Drug release studies:** A dissolution test was performed to determine the release kinetics of 5-FU from the buccal tablets.
- **Cell death induction:** In vitro experiments were conducted to assess the cytotoxicity of 5-FU released from the tablets on oral squamous carcinoma cell lines.

**Results:**

- Drug release from the tablets was found to be consistent and sufficient to induce cell death.
- Complete eradication of cell colonies was observed upon treatment with the buccal tablets.

**Conclusion:** Buccal matrix tablets represent a promising alternative for chemotherapy in the oral cavity, offering potential benefits over traditional methods.

**References:**