

Modelling the effects of Human Papilloma Virus in cervical cells

Francisco J. Solis
Centro de Investigación en Matemáticas
Calle Jalisco s/n
Colonia Valenciana
Guanajuato Gto,
Mexico 36240
solis@cimat.mx

Abstract

Worldwide, cervical cancer is the second most common cancer in women, after breast cancer. The prevalence of this malignant disease is estimated at 1.4 million cases worldwide, causing about 290,000 deaths and 500,000 new cases per year, of which 80% correspond to women living in developing countries. In this work we propose an advection diffusion reaction model for basal cells of the cervix corresponding to different stages ranging from normal cells to the formation of precancerous lesions. We analyze the model in order to predict the behavior of basal cells.