ABSTRACT

In this work, we characterize the steady states and analyze their stability properties in a complex, strongly non-linear model of delay-differential equations with multiple delays, for cell evolution in leukemia. The competition on space between healthy and leukemic cell populations is taken into consideration. Three types of division that a stem-like cell can undergo, asymmetric division, self-renew and differentiation are also considered. Numerical results and simulations are discussed in relation to clinical implications of the proposed model.