Abstract

In this paper, two types of cellular automata are studied in order to describe the 2-dimensional free growth of an avascular tumor under the effect of a limited nutrient source. On one hand a deterministic cellular automata approach is used. On the other hand a stochastic one is presented. An existing reaction-diffusion model including cell proliferation, motility and death is used. Finally, a numerical simulations that show the difference between these approaches are discussed.

References

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**Index Terms**

Computer Science \hspace{1cm} Information Sciences

**Keywords**

Cellular automata (CA) \hspace{1cm} avascular tumor \hspace{1cm} immune \hspace{1cm} reaction-diffusion model

stochastic CA

deterministic CA