Travelling waves for the model of low-grade glioma growth in a porous medium

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In this study, we extend our previous results [1] where we investigated the dynamics of a glioma model with continuous chemotherapy administered to tumours by reaction-diffusion system. As before, we assume that tumours evolve not only due to proliferation but also due to cell motility but this time cells' motility is modelled by a non-linear diffusion in a porous medium, while the tumour proliferation by a logistic source term. Our motivation, for modelling the cell motility by diffusion term and not as active transport, came from the fact that low-grade gliomas grow very slowly, so it is less possible to find the tumour cells far from the tumour bulk. Our main focus lies in exploring the possibility of the existence of travelling wave solutions for the extended model and the comparison of results among the models.

References

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