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Actually the main motivation for the contents of this presentation is to introduce fractional calculus as a prospective mathematical tool for cancer dynamics, in particular prostate cancer modelling. In this context, firstly, our main problem on the controversial role of androgens for prostate cancer development is handled and according to our hypothesis a new mathematical model consisting of conventional logistic growth phenomena is constructed versus another prospective model based on a ecological phenomena, cell quota. Then, we compare these two models demonstrating the mean squared error (MSE) values for androgen and prostate-specific antigen (PSA) for the first 1.5 cycles of intermittent androgen suppression (IAS) therapy administered to 62 selected patients from the Vancouver Prostate Center (Vancouver, BC, Canada). To reduce MSE values, we also generate the fractional version of the model and verify that fractional differentiation provides better data fitting for mathematical modelling. Moreover, with a discussion part, which hints for future works should be taken into account are pointed out.