Antiferromagnetic materials are promising materials for implementation in spintronic memory devices. In contrast to the more well-known ferromagnetic materials, which are already used in magnetoresistive random access memory (MRAM) devices, they possess multiple advantages, such as no net magnetization and ultrafast dynamics. Antiferromagnetic memories store information through the orientation of the antiferromagnetic ordering. The magnetoresistance of the materials could be used for the electrical readout of the antiferromagnetic structure. In recent experiments in an antiferromagnet CuMnAs after applying a series of electrical or optical pulses, a change in resistivity associated with a significant decrease in the size of antiferromagnetic domains was observed. This means that one is able to perform electrical or optical writing in antiferromagnets. The state persists for timescales that exceed the magnetic dynamics timescales by many orders of magnitude. Here, we present the findings of the antiferromagnetic domain dynamics simulations in CuMnAs, specifically focusing on the process of small domain relaxation leading to the formation of larger domains. The simulations were based on atomistic spin dynamics. For all temperatures, a growth of magnetic domains was detected. However, the size of the antiferromagnetic domains in the simulations was substantially greater than that observed in the experiments. This suggests that the metastability of nano-fragmented domains [**?**] is caused by factors which are absent in the simulations. These unknown factors might include defects or impurities of the sample. Since some physical parameters (damping parameter and anisotropy strength) are not experimentally measured, it was needed to find the best-fitting values of those parameters for the following simulations.