Transient cavitation of a homogeneous gas-liquid mixture flow is modeled for an elastic pipeline by using the classical conservation equations of each phase, which are, later on, written in dimensionless form. The later is resolved by a second order finite difference scheme for which a flux corrective transport algorithm is added as an additional step, in order to accomplish a suitable treatment of the shock problem. The flow gives rise to a localized vapor+gas cavity for which time and space expansion is calculated from the corresponding compatibility relation, continuity equation and ideal gas law. Also, effect of the degassing phenomenon, on this cavity and on the dynamic parameters, is reproduced from a macroscopic bubble growth model. Obtained results are discussed and compared with ones given by experimental data