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For a very low feed rate, it can be assumed that a hanging drop at the end of a capillary remains in near equilibrium just before breaking. The equilibrium condition indicates that the action of the capillary force must oppose the weight of the drop, to which should be added the force due to Laplace pressure. Thus, for a given fluid and a fixed wet perimeter, the maximum mass of a hanging drop should be constant if Laplace pressure is also constant. We modulated this pressure by modifying the main curvatures of the drop and we observed that the mass of the drop is not constant. For three contrasting surface tension liquids, drops were made with five different needle diameters. They were loaded with glass beads of increasing mass respecting the axi-symmetry of the system. This loading induces a stretching of the drop that modulates the main curvatures. The measurements of the volumes and curvature radii for different loading rates are performed by image analysis. These loading experiments highlight the increase of Laplace pressure with the loading and the non-linear decrease of the drop mass. However, we observe that the liquid mass in the loaded drop decreases linearly with the increase of the bead mass without verifying the mass balance. Such a result is included in a master curve which highlights the role of the Laplace pressure in the equilibrium of a hanging drop just before its rupture. It challenges the validity of Tate's law and allows the setting of functional ranges for capillary micromanipulators.