In this work, killer effects of non thermal atmospheric pressure plasma on Candida albicans known as resistant microorganisms in the obdurate root canals were investigated. We produced atmospheric pressure plasma jet with 99% helium flow and 1 % oxygen flow. Sabouraud dextrose agar (SDA) plates were inoculated with 0.2 mL broth culture of Candida albicans ATCC 254625 at three different concentrations of 0.5, 1 and 2 McFarland. Petri dishes and the pencil was also fixed at 10 mm. Plasma application was performed for 30s, 60s, 3m and 5m on each plate. For quantitative evaluation, Iml broth culture of Candida albicans at concentration of 0.5 McFarland was prepared in 6 sterile Eppendorf tubes. The discharge was applied for 30s, 60s, 3m, 5m and 10 min on each tube. 13x20 mm area of microbial killing was observed with longer plasma exposure time (up to 5 min). The non thermal plasma can efficiently kill C. albicans in all application times. It seems to be harmless according to current root canal disinfectants because of its low temperature. Optical emission spectrum and current-voltage characteristics were given.