Obesity is increasing worldwide together with its companions hypertension and type 2 diabetes. The obese hypertensive patients are usually at high cardiovascular risk because derangements of glucose and lipids metabolism are also present. A study in 3 different populations suggested a relationship between the TCF4 gene microsatellite DG10S478 allele “X” (with more than 5 TTTC repetitions) and type 2 diabetes. This genetic marker may be especially useful to identify patients with susceptibility to diabetes in a population with high cardiovascular risk and increased incidence and prevalence of diabetes. Thus, the objectives of this study were: 1) identify the carriers of TCF4 allele X among obese hypertensive; 2) verify the prevalence of the X allele in comparison to healthy subjects. We studied 131 obese hypertensives without diabetes, and 146 healthy subjects as control population. Genotyping of the microsatellite was performed by PCR and direct sequencing. The allele frequencies were similar (allele X = 37.4%) to those found in the previous published study on 3 different population. We didn’t find a higher allele X frequency in obese hypertensives compared to the control group (39.7% vs. 35.3%, P=0.323). Furthermore, there were no allele X-related differences in BMI and waist among groups (P=0.76). We conclude that, although TCF4 allele X could be useful to identify obese hypertensives that might develop diabetes, its prevalence is not increased in this population. Thus, accordingly to the previous published work, allele X associates with type 2 diabetes through mechanisms not linked to obesity and related consequences.