Introduction: There is a paucity of data regarding the value of midtrimester maternal serum alpha-fetoprotein (AFPSM) in well controlled pregnant women. Most studies include not only pregnant women submitted to a regular obstetric care, but those without medical surveillance as well. Objective: To determinate if unexplained high levels of AFPSM during the second trimester of pregnancy (≥ 2.5 multiples of the median, MoM) are associated with Low Birth Weight (LBW) and Intrauterine Growth Restriction (IUGR). Study Design: The exposed cohort was selected from 158 patients who had unexplained elevated AFPSM 2.5 MoM) from January 1996 to December 2005. The control group consisted on 1962 pregnant women who had maternal serum screening for Down syndrome and neural tube defects from January 2002 trough December 2002 whose AFPSM values were under 2.5 MoM. All the subjects recruited were submitted to a regular obstetric control during the whole pregnancy. We analysed birth weight in both cohorts. Results: Birth weight was lower in the exposed cohort than in the control group (2827,05 g versus 3204,84 g; p<0,001). Elevated AFPSM levels were associated with an increased risk of IUGR and LBW. Conclusion: This study confirms the value of AFPSM as a predictor of LBW and IUGR. The data obtained are reflective of the general population attended in Spanish Hospitals, rather than a high-risk referral group.