Objective
Persistent left superior vena cava (PLSVC) represents the most common congenital anomaly of the systemic venous return, occurring in 0.3% of the general population. In most of the data published to date, PLSVC is usually associated to other significant heart disease that will condition the final prognosis. The aim of this study was to analyze the outcome of prenatal PLSVC with no other cardiac malformations associated.

Methods
We retrospectively reviewed all the fetal ultrasound scans with a diagnosis of PLSVC from January 2009 to December 2014. PLSVC was diagnosed when an additional vessel was identified to the left of pulmonary artery in a three-vessel trachea view. We studied the association of this finding with other cardiac and non-cardiac anomalies and we analyzed the genetic test and the postnatal outcomes, including cases of termination of pregnancy.

Results
We found 74 fetuses diagnosed with PLSVC, 25 of them (34%) with other significant cardiac malformations conditioning an adverse prognosis. There were 4 patients lost to follow-up. Among the remaining 45 cases we differentiated 2 groups: a) 26 fetuses with an isolated PLSVC and b) 19 fetuses with either intrauterine growth restriction (IUGR), non-cardiac markers (clubfoot, megacisterna magna, pelvic kidney) and/or minor cardiac anomalies (single umbilical artery, persistent right umbilical vein, small VSD, right aortic arch) associated to the PLSVC. In group a the genetic prenatal test, when the parents accepted it, was normal; all the patients were alive and well at birth. In group b the genetic prenatal test was abnormal in 7 cases (1 intrauterine fetal demise, 4 terminations of pregnancy, 2 babies born alive) and normal in the other 12 cases (1 intrauterine fetal demise, 11 babies born alive).

Conclusion
In our experience, the diagnosis of persistent left superior vena cava is associated to a high rate of abnormal genetic test, compared to the general population. A thorough scan must be granted in search for associated findings, since minor anomalies or IUGR may be markers for a pathological genetic condition in fetuses with PLSVC. As an isolated finding, PLSVC seems to have a good prognosis.