



Importance of genetic variants in p53, IL-11, IL-10 and VEGF in patients with repeated miscarriages (RPL) and implantation failure (RIF).

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Implantation failure and repeated miscarriages are the main causes of repeated IVF failures. Although more than 50% are due to genetic, anatomic, endocrine, autoimmune causes, a high percentage are of unknown origin. Certain environmental or lifestyle factors could explain the etiology in these cases. In addition, certain genetic variants (polymorphisms) may predispose to increased risk of these diseases.

This research has analyzed a number of genetic variants in order to be able to determine whether they are more prevalent in patients with RIF or RPL and therefore that those might be risk factors. For this research, we have studied these variants in a population of patients who had undergone two miscarriages (RPL) and in patients in which we have transferred more than 4 good quality embryos in at least two transfers (RIF) compared with a population control. The results obtained, show that there is a higher incidence of carrying a p53 variant in patients with RIF and RPL so that this variant may explain their pathology. In the case of IL -11, we observed that one of its variants shows a tendency to be associated with these reproductive problems. Finally, neither the variants in IL -11 nor VEGFA show to be more prevalent in our study patients. This information is highly relevant since, along with additional markers, could allow developing diagnostic tests to detect the risk of RIF and RPL before treatment begins.

At Instituto Bernabeu Implantation Failure and Repeated Miscarriage Units, a multidisciplinary approach to these patients is performed to diagnose and treat individually their reproductive problem. This unit consists of professionals from different disciplines and their research work has been included in this communication.