

A de novo Complex Chromosomal Rearrangement of 46,XX,t(7;15;13)(p15;q21;q31) in a Female with an Adverse Obstetric History

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ABSTRACT Complex chromosomal rearrangements (CCRs) are rare structural rearrangements involving three or more chromosomes. Balanced CCRs are often seen in phenotypically normal females who may later present with fertility problems. We report a 25-year old female with an adverse obstetric history and a de novo CCR involving chromosomes 7, 13 and 15 detected after GTG-banding. The de novo origin was confirmed because the karyotypes of the proband's parents and male sibling were normal. Cytogenetic analysis of the proband revealed the following complex karyotype: 46,XX,t(7;15;13)(p15;q21;q31). This case illustrates the importance of identifying de novo, apparently balanced CCRs in patients with adverse obstetric histories. Further, offspring of female carriers of apparently balanced CCRs may be affected as a result of abnormal meiosis during gametogenesis. This makes it imperative to karyotype women with adverse obstetric histories to rule out the presence of chromosomal rearrangements and facilitate genetic counseling of the patient, family planning, and prenatal diagnosis of future pregnancies.