FERTILITY IN MCCUNE ALBRIGHT SYNDROME FEMALE: A CASE STUDY FOCUSING ON AMH AS A MARKER OF OVARIAN DYSFUNCTION AND SYSTEMATIC REVIEW

AGOPIANTZ, MIKAEL; SORLIN, ARTHUR; VABRES, PIERRE; GUILLET-MAY, FREDERIQUE; BONNET, CELINE; KOSCINSKI, ISABELLE; GAUCHOTTE, GUILLAUME

Abstract Body

McCune Albright syndrome (MAS) is a rare disorder characterized by *café-au-lait* spots, bone fibrous dysplasia and endocrinopathies that occurs early in life. The molecular basis of the disease is a recurrent postzygotic gain of function sporadic mutation of the *GNAS* gene, resulting in a mosaic disease. Most of girls present precocious puberty, caused by the development of recurrent ovarian cysts with autonomous hyperestrogenic stimulation. After menarche most of the patients with ovarian *GNAS* mutation have menstrual disturbances and infertility. We wanted to focus on the fertility of MAS females and propose an appropriate management, by a detailed case report and an exhaustive review of the literature on fertility and pregnancy in MAS females.

We present the case of a 29-year-old MAS female, who had previously undergone an unilateral ovariectomy and was managed by *in vitro* fertilization. Stimulation required high doses of FSH. Eight oocytes with many morphological abnormalities were retrieved, resulting in 4 embryos. The *GNAS* mutation was found at a low frequency in follicular cells. Ovarian histopathological examination showed developing follicles of any stage, strongly expressing AMH by immunohistochemistry. In addition, AMH was high (45.5 pmol/L) and the AMH / AFC ratio (5.69 pmol/L per follicle) was much higher than in PCOS and control patients (2.16, and 1.34 respectively).

Ovarian and endometrial involvement can be responsible for infertility in MAS women. IVF and oophorectomy may be useful in management. The genetic characterization of the different tissues may have a prognostic utility. Moreover, we propose the AMH as a marker of the ovarian activity of MAS. Further larger studies are needed to clarify the potential oocyte abnormalities and the risk of miscarriages in order to guide genetic counseling.