

# Late Pregnancy Following in Vitro Fertilization, Complicated by Early Severe Preeclampsia in a 45-Year-Old Primigravida: A Case Report

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## Abstract

We report a case of late pregnancy following in vitro fertilization, complicated by severe early preeclampsia in a 45-year-old primigravida. The treatment was conservative for two weeks and then the pregnancy was terminated by caesarean section in view of the worsening of the clinical and biological parameters. The maternal prognosis was favorable. As for the perinatal prognosis, it resulted in prematurity, intrauterine growth retardation and neonatal respiratory distress requiring transfer to neonatal intensive care. Thus, when a couple wishes to have recourse to IVF or ICSI for a late pregnancy, health professionals must inform them of the probable increases in the risks for the woman but also for the child.

**Keywords:** late pregnancy at age 45, in vitro fertilization, pregnancy complications, caesarean section.

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## INTRODUCTION

Today, wanting a child at 40 or even 45 after medically assisted procreation is not an exceptional thing in both developed and developing countries. In the past, access to medical aids for procreation after the age of 40 was not an option due to a high risk of maternal-fetal morbidity and mortality [1]. Maternal age is the most important determinant of fertility; Obstetrical and perinatal risks are directly proportional to maternal age. Many women are unaware of the success rates or limitations specific to assisted reproductive technologies and the increased medical risks of late pregnancy [2]. These risks include multiple pregnancies, premature delivery, stillbirth and the risk of delivery by caesarean section [2]. In late pregnancies, whatever the parity, the frequency of gestational diabetes is constantly increased; pregnancy-induced hypertension and preeclampsia are more common, as well as placenta previa. Maternal and perinatal mortality increases with age, regardless of improvements in care [3]. We report a case of late pregnancy following in vitro fertilization, complicated

by severe early preeclampsia in a 45-year-old primigravida. The objective was to discuss the therapeutic and prognostic aspects of these late pregnancies often obtained at great expense.

## CASE REPORT

Mrs. BH, 45 years old, primigest, she had two undocumented myomectomies history. She had no known medical history. She was referred from a peripheral maternity unit to our department for management of severe preeclampsia with a pregnancy of 29 WA + 5 days following in vitro fertilization (IVF) with embryo transfer performed in India. On admission, the interview did not note any neurosensory signs. The general condition was preserved (WHO rating 0), blood pressure at 165/110 mmHg, weight 79 kg, height 1.67 m, BMI 28.2 kg/m<sup>2</sup>. Significant edema of the lower limbs was noted. The obstetrical examination found a fundal height of 29cm, fetal heart sounds at 134 beats/min. Examination of the vagina found a short median closed cervix. The search for proteinuria on the urine dipstick showed three crosses. The emergency ultrasound showed an evolving single-fetal pregnancy

of 29 weeks +5 days with no fetal abnormalities or adnexa. The biological assessment objectified a rate of white blood cells at 6200/mm<sup>3</sup>, Hb at 13.5g/dl, thrombocytopenia with platelets at 78000/mm<sup>3</sup>. There was an elevation of D-dimers with a rate of 1110ng/ul. Renal and hepatic assessments are unremarkable. The diagnosis of severe preeclampsia was made. She received treatment with magnesium sulphate (for 48 hours), injectable anti-hypertension (clonidine hydrochloride 150mg/8h for 48 hours) then oral relay (Alpha methyl dopa 500mg/12h and labetalol 200mg/24h). Acceleration of lung maturation (bethametasone 12mg/24h for 48h). We carried out a conservative treatment by opting for the continuation of the pregnancy. The evolution was marked after fourteen days of hospitalization by an increase in blood pressure figures to 190/120 mmHg not controlled by a triple antihypertensive (Alpha methyl dopa 500mg/8h, labetalol 200mg/24h and nifedipine 20mg LP/12h). The patient complained of helmet headaches, dizziness and blurred vision. We performed an emergency caesarean at 31 weeks + 5 days. A live newborn weighing 1770 grams is extracted with an Apgar score of 6 and 8 respectively at the 5th and 10th minute. The newborn presented with respiratory distress that required resuscitation and hospitalization in the neonatal intensive care unit. The patient and her newborn had left the maternity ward seven days postpartum with good hemodynamic, ventilatory and neurological status.

The patient gave her voluntary consent for the publication of her case.

## DISCUSSION

This observation reports the clinical and biological illustrations relating to the evolution of a late pregnancy following IVF in a 45-year-old patient. This patient, after a long therapeutic journey during which she had benefited from a myomectomy twice and medical care without success for primary infertility evolving for 20 years, had gone to India to undergo IVF. Indeed, the technology of medically assisted procreation is not yet developed in Niger. Patients wishing to resort to it carry out what should be called procreative tourism in the countries of the Maghreb, India or the West. However, pregnancy at an advanced age, whether spontaneous or induced, is at risk of numerous maternal and perinatal complications. Maternal age is a determining factor in maternal and foeto-infant morbidity and mortality [4, 5]. All the authors agree that late pregnancies expose women to sometimes very serious complications (pre-eclampsia, eclampsia, dystocia, diabetes, postpartum haemorrhage) [1-6] and sometimes unfavorable results on the outcome. pregnancy (low birth weight newborns, stillbirths, prematurity [1-6]. In view of the high cost of medically assisted procreation, the high failure rate and numerous maternal and perinatal complications, patients of advanced age must be informed of all these risks. In France, for example, couples wishing in vitro

fertilization must meet certain conditions. Firstly, the medical indication for medically assisted procreation must be justified. Secondly, the couple must prove that they have lived together for at least two years Thirdly, both partners must be alive at the time of the IVF Fourthly, the woman must be of childbearing age, i.e. e less than or equal to 43 years. This fourth condition is a contraindication to the practice of IVF in France in our patient. Regarding complications, the first complication of pregnancies after 40 years is spontaneous miscarriage. The FIVNAT study [7] highlights that the miscarriage rate goes from 13.6% at 25-29 years to 30% at 40-41 years and 40% at 42-44 years both in IVF and in ICSI [1]. Another maternal complication that increases with age is ectopic pregnancy with a risk of uterine rupture [1]. The vast majority of studies reveal an increase in the occurrence of high blood pressure during pregnancy after age 40 [1-6]. The study by Gilbert, Nesbitt and Danielsen [8] finds an increase in arterial hypertension and preeclampsia after age 40 regardless of parity, and the increase is even clearer in nulliparas [1]. In our patient, the pregnancy was complicated by early severe preeclampsia at 29 weeks. This situation constitutes a real therapeutic dilemma. On the one hand there is a high risk of maternal and fetal morbidity and mortality in the continuation of the pregnancy and on the other hand the extraction of a premature newborn in a center with a low technical platform in terms of neonatal resuscitation increases neonatal mortality. It would be difficult to have a reassuring attitude in the face of such a high-risk pregnancy, acquired at great expense. The appearance in our patient of headaches, dizziness and visual blurring contrasting with malignant hypertension presaged the imminence of eclampsia with all its maternal-fetal complications. Labor should then be induced. As the case of our observation, all studies claim that prematurity is more common in late pregnancies. According to Bécélère's exact definition of prematurity, primiparous and multiparous combined, the proportion goes from 5.7% before 35 years to 8.2% after 40 years. Medically induced prematurity accounts for 4.8% of pregnancies in women aged 40 or over [1]. In our observation, the newborn had presented intrauterine growth retardation and respiratory distress requiring his transfer to neonatal intensive care. The causes mentioned are a reduced uteroplacental perfusion but also an increase in vasculorenal pathologies [1, 6]. It should be kept in mind, however, that the majority of publications conclude that the obstetrical and neonatal prognosis is generally favorable [1].

## CONCLUSION

Pregnancies after 40 or even 45 years following IVF are more and more frequent in both developed and developing countries. However, many patients are not informed of the risks associated with late pregnancy and the decline in fertility from the age of 35 and that ART does not have a 100% success rate.

Thus, when a couple wishes to have recourse to IVF or ICSI for a late pregnancy, health professionals must inform them of the probable increases in maternal and perinatal risks. It is appropriate to wonder about these late pregnancies induced abroad, should they be carried out at any price?

**Conflict of Interest:** None.

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