

Available online at [www.sciencerepository.org](http://www.sciencerepository.org)

Science Repository



## Letter to the Editor

# Home Hemodialysis during Pregnancy

Leonora Lambot, Eric Goffin, Sophie Coche and Corinne Hubinont\*

Department of Obstetrics and Nephrology, Saint Luc University Hospital, Brussels, Belgium

### ARTICLE INFO

#### Article history:

Received: 24 May, 2021

Accepted: 8 June, 2021

Published: 23 June, 2021

#### Keywords:

Pregnancy

renal failure

home hemodialysis

© 2021 Corinne Hubinont. Hosting by Science Repository.

Dear Editor,

We would like to report here the successful outcome of a pregnancy in a patient with end-stage kidney disease (ESKD) mainly managed with intensive home hemodialysis (HHD) throughout pregnancy.

### Case Report

A 36-year-old patient, G2P1, with type 1 diabetes complicated with ESKD treated with HHD, was referred for a spontaneous pregnancy. In her medical history, she had a normal vaginal delivery at 36 weeks for preeclampsia before ESKD. The patient was informed of the need to increase the frequency and duration of the hemodialysis sessions and she opted to pursue it at home. She had 4-night sessions of 7 to 8 hours per week and after the second trimester onwards, she substituted one of those for a 4-hours session in the hospital. Antenatal care included blood tests, Doppler ultrasound, and multidisciplinary follow-up by nephrologist, endocrinologist and ophthalmologist. Aneuploidy was excluded. Diabetes was well controlled with glycated haemoglobin of around 6.8%. At 25 weeks, she had a weekly cardiotocogram; weekly HHD frequency was further increased to 6 nocturnal sessions/week. At 31 weeks gestation, she had preterm labour and was treated with progesterone tablets and nifedipine. She received a course of corticosteroids for fetal lung maturation. At 33 weeks gestation, she developed hypertension (174/84 mmHg) with legs oedemas. Proteinuria

was not measured as the patient was anuric. She had no biological signs suggestive of preeclampsia. She was successfully treated with alpha-methyl dopa 250 mg b.i.d., and nifedipine 30 mg b.i.d. At 35 weeks 2/7, liver enzymes started to increase and labour induction was initiated. After a course of vaginal prostaglandins followed by intravenous oxytocin, she delivered vaginally a girl weighing 3020g with an Apgar score of 10 at 5 and 10 minutes. The postpartum outcome was unremarkable for both mother and infant and they were discharged on day 4.

### Discussion

Pregnancy in women with ESKD and dialysis is a challenge requiring specific management [1-5]. Those patients have a decreased fertility and bad pregnancy outcome because of hypertension, preeclampsia, anemia, miscarriage, polyhydramnios, prematurity and intrauterine growth restriction [4]. Antihypertensive therapy should be adapted, and anemia corrected with iron and erythropoietin. Aspirin 160 mg daily administration is also recommended [3, 5]. But more importantly, intensification of both length and frequency of hemodialysis to a minimum of 20 hours/week (ideally 36 hours/week) is necessary to reduce the risk of preterm delivery and low birth weight [1-3]. The aim of this dialysis intensification is to reach better clearances of urea and phosphate, to increase fluid removal (and lowering thus the risk of hypertension and cardiac hypertrophy), and to reduce the inflammation status, thereby improving endothelial function [2]. To reach such an

\*Correspondence to: Corinne Hubinont, M.D., Ph.D., Department of Obstetrics and Nephrology, Saint Luc University Hospital, 10 Avenue Hippocrate, B-1200, Brussels, Belgium; E-mail: [corinne.hubinont@uclouvain.be](mailto:corinne.hubinont@uclouvain.be)

intensive hemodialysis programme, the most socially acceptable solution is to perform HHD, if possible, as illustrated in the present case. Amongst other recommendations, fetal and maternal monitoring (cardiotocogram, fetal echography and Doppler) should be done once weekly from 26 weeks onwards [3]. For the delivery, planned induction is recommended around 37 weeks gestation and vaginal delivery is the preferred option. Short pre-induction dialysis should be performed without heparin to allow epidural anaesthesia and reduce postpartum hemorrhage risks [3].

### Conclusion

Pregnancies under hemodialysis have a much better prognosis when intensification of the hemodialysis programme, both in duration and frequency, can be achieved. HHD, under the control of experienced multidisciplinary staff throughout pregnancy, can be a safe and feasible option more acceptable to the patient.

### Competing Interests

None.

### REFERENCES

1. Piccoli GB, Minelli F, Versino E, Cabiddu G, Attini R et al. (2016) Pregnancy in dialysis patients in the new millennium: a systematic review and meta-regression analysis correlating dialysis schedules and pregnancy outcomes. *Nephrol Dial Transplant* 31: 1915-1934. [[Crossref](#)]
2. Hladunewich MA, Hou S, Odutayo A, Cornelis T, Pierratos A et al. (2014) Intensive hemodialysis associates with improved pregnancy outcomes: a Canadian and United States cohort comparison. *J Am Soc Nephrol* 25: 1103-1109. [[Crossref](#)]
3. Hladunewich M, Schatell D (2016) Intensive dialysis and pregnancy. *Hemodial Int* 20: 339-348. [[Crossref](#)]
4. Tangren J, Nadel M, Hladunewich MA (2018) Pregnancy and End-Stage Renal Disease. *Blood Purif* 45: 194-200. [[Crossref](#)]
5. Marcadal L, Nizard J (2020) Prepregnancy counselling and management of pregnancy in haemodialysis patients. *Néphrol Dial Transplant* 35: 219-221. [[Crossref](#)]