

“THE CHILDREN OF DIALYSIS, THE COMEBACK OF LIFE”. LIVE BORN BABIES FROM DIALYSIS MOTHERS IN ITALY: AN EPIDEMIOLOGICAL PERSPECTIVE.

Giorgina Piccoli¹, Gianfranca Cabiddu², Gabriella Guzzo¹, Giuseppe Daidone³, Stefania Maxia², Sara Ghiotto⁴, Ida Ciniglio¹, Valentina Postorino⁵, Valentina Loi², Michele Nichelatti⁶, Rossella Attini¹, Alessandra Coscia¹, Maurizio Postorino⁷, Antonello Pani²

¹Italian Working Group On the Kidney and Pregnancy, Torino, Italy²Italian Working Group On the Kidney and Pregnancy, Cagliari, Italy³Italian Working Group On the Kidney and Pregnancy, Siracusa, Italy⁴Italian Working Group On Kidney and Pregnancy, Torino, Italy⁵Italian Working Group On the Kidney and Pregnancy, Roma, Italy⁶Italian Working Group On the Kidney and Pregnancy, Milano, Italy⁷Italian Working Group On the Kidney and Pregnancy, Reggio Calabria, Italy

OBJECTIVES

The advances in intensive dialysis contributed to re-discuss the issue of pregnancy in dialysis patients. In spite of the renewed interest, and of the improved results, pregnancy is still exceptional on dialysis. Few data are available comparing pregnancy rates on dialysis and after kidney transplantation also with respect to the overall population. Aim of the study was to assess the incidence of live-born babies from mothers on chronic dialysis in Italy, in the new millennium, comparing the results with the overall population and with kidney transplant patients.

METHODS

Setting of study: Italy 2000-2012. Sources of data: Dialysis: a phone inquiry was performed in June-September 2013, involving all the public dialysis Centers and all the major private dialysis Centers in Italy; response rate was 100%. Transplantation: inquiry by phone and mail by the Italian study group on kidney and pregnancy: response rate 60%. The following data were gathered: ESRD, type of dialysis, GFR, changes of dialysis, hospitalizations, living versus cadaveric donor; therapies and complications, creatinine, hypertension, proteinuria, CKD stage; week of birth, birth weight, birth weight percentile; outcome of mother and child. Prevalence of women in childbearing age (20-45) was obtained from the Italian Dialysis and Transplant Registries (2010-2011 updating; inference from test Regions). Overall population: Ministry site.

RESULTS

In the period of study 23 women on dialysis (3 on peritoneal dialysis) delivered live-born babies; one woman delivered two twins (overall: 24 babies). Interestingly, about half of the mothers had no residual diuresis (and a long dialysis vintage) and one third had immunologic diseases, including SLE and vasculitis, thus suggesting that pregnancy is possible also after a long dialysis follow-up or with "difficult" diseases. Preterm delivery was the rule: 19/21 singletons with available data were preterm (33.3% were "early preterm", ie <34 gestational weeks). The prevalence of children below the 10th weight percentile (gestational age-adjusted) was high: 33.3%. Three babies died in the first months of life (including one twin). The surviving children had no clinical or developmental problem. The most common therapeutic adjustment was the switch to daily dialysis (and an increase in exchanges in peritoneal dialysis). As expected, comparing the data with 110 pregnancies recorded after kidney graft (about 60% of the Italian grafted population), birth weight was lower on dialysis (1200 vs 2500 g; $p < 0.01$), and gestational age was also lower (30 vs 36 weeks, $p < 0.01$). Incidence of live-born babies was inferred as 0.7-1.1 per 1000 female dialysis patients in childbearing age (age 20-45 years) and 5.5-8.3 per 1000 grafted patients of the same age groups. This figure corresponds to a live-birth rate in the Italian population of 72.5 per 1000 women aged 20-45 years.

CONCLUSIONS

Having a baby on dialysis is rare but not impossible; early mortality remains high. There is a "scale of probability" with an about 10 folds decrease of probability of a live-born baby from the overall population to transplantation and from transplantation to dialysis.

REFERENCES:

- Piccoli GB, Cabiddu G, Daidone G, Guzzo G, Maxia S, Ciniglio I, Postorino V, Loi V, Ghiotto S, Nichelati M, Attini R, Coscia A, Postorino M, Pani A; Italian Study Group "Kidney and Pregnancy". *The children of dialysis: live-born babies from on dialysis mothers in Italy – an epidemiological perspective comparing dialysis, kidney transplantation and overall population*. *Nephrol Dial Transplant*. 2014 Apr 22. pii: gfu092. [Epub ahead of print].
- Shahir AK, Briggs N, Katsoulis J, Levidiotis V. *An observational outcomes study from 1966-2008, examining pregnancy and neonatal outcomes from dialysed women using data from the ANZDATA Registry*. *Nephrology (Carlton)*. 2013; 18: 276-84.
- Hladunewich M, Hercz AE, Keunen J, Chan C, Pierratos A. *Pregnancy in end stage renal disease*. *Semin Dial*. 2011; 24: 634-9.
- Piccoli GB, Conijn A, Consiglio V, Vasario E, Attini R, Deagostini MC, Bontempo S, Todros T. *Pregnancy in dialysis patients: is the evidence strong enough to lead us to change our counseling policy?* *Clin J Am Soc Nephrol*. 2010;5 :62-71.
- Hou S. *Pregnancy in women treated with dialysis: lessons from a large series over 20 years*. *Am J Kidney Dis*. 2010 Jul;56(1):5-6.
- Richman K, Gohh R. *Pregnancy after renal transplantation: a review of registry and single-center practices and outcomes*. *Nephrol Dial Transplant*. 2012 Sep;27(9):3428-34

