



Dialysis

Revised: March 15, 2023.

Drug Levels and Effects

Summary of Use during Lactation

There are few reported cases of breastfeeding during dialysis. Analysis of breastmilk indicates that the milk concentrations of some solutes are abnormal. Authors who managed one patient suggest that breastfeeding after hemodialysis might be preferable to breastfeeding before hemodialysis and milk pumped just before dialysis should be discarded.[1] Another group discouraged breastfeeding by dialysis patients because of the abnormal content of breastmilk.[2]

Effects in Breastfed Infants

Relevant published information was not found as of the revision date.

Effects on Lactation and Breastmilk

Hyperprolactinemia is a well-known complication of chronic kidney disease.[3-5] Hyperprolactinemia can cause effects such as galactorrhea and hypertension. Dopaminergic agonists such as bromocriptine and cabergoline have been used to counteract these effects.[6,7] The prolactin level in a mother with established lactation may not affect her ability to breastfeed.

A mother with end-stage renal disease receiving hemodialysis 3 times weekly partially breastfed her infant for 10 weeks postpartum. Breastmilk samples were collected at various times between day 10 and week 10 postpartum. Sodium and chloride concentrations in breastmilk were higher than in 6 control women without kidney disease, but sodium, chloride, potassium and magnesium in breastmilk were similar pre- and post-dialysis. Phosphate concentration in breastmilk was lower than normal and the mother partially fed her infant with a high-phosphate formula to compensate. Urea, creatinine, and uric acid were higher in breastmilk than in controls, but all were reduced by dialysis; urea levels in breastmilk were normal in post-dialysis samples. Although glucose levels in breastmilk were lower in the patient's milk than in control milk, it was not different pre- and post-dialysis. Protein, triglycerides, cholesterol and immunoglobulins were similar to control milk and were not affected by dialysis. The authors suggest that breastfeeding after a dialysis session is preferable to breastfeeding prior to a dialysis session. They instructed the mother to discard milk pumped immediately prior to dialysis.[1]

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A woman who was on chronic hemodialysis of 20 to 24 hours per week plus renal replacement therapy delivered a healthy infant and breastfed her infant for 1 month. Several breastmilk components were measured 5 times on a dialysis day and compared to those in the milk of 5 normal control patients. Creatinine was always higher in the milk of the patient than the controls. The lowest levels of creatinine and urea in milk occurred 4 hours after dialysis. Total protein and albumin were lower than those of the control patients, with the lowest protein level immediately after dialysis. Albumin was affected less, but reached its lowest level at 4 hours after dialysis. Secretory IgA, IgA, IgM and 8 proinflammatory cytokines were not markedly different from the controls, but the antiinflammatory cytokines IL-4 and IL-10 were lower in the patient's milk than in control milk after dialysis with the nadir at 7 hours after dialysis.[2]

References

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6. Gulleroglu K, Olgac A, Bayrakci U, et al. Hyperprolactinemia as a rare cause of hypertension in chronic renal failure. *Ren Fail*. 2012;34:792–4. PubMed PMID: 22462393.
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Substance Identification

Substance Name

Dialysis

Drug Class

Breast Feeding

Lactation

Milk, Human

Renal Dialysis