



circumcision

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Newsletter: Can Newborn Circumcision Prevent Kidney Damage and Hormonal Abnormalities?

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Multiple reports comparing uncircumcised vs circumcised infants in the first year of life have found that uncircumcised baby boys are about 10 times more likely to develop severe kidney infections. Studies from Europe, where infants are not circumcised, have described an interesting syndrome, predominately in uncircumcised baby boys. The combination of findings includes infant urinary tract infection (UTI), very high levels of certain hormones associated with high blood pressure (aldosterone and renin), and salt abnormalities (low blood sodium, high potassium). These hormonal and salt abnormalities return to normal following treatment of the UTI. We recently reported this syndrome in 2 United States infants, one girl and one uncircumcised boy (Schoen et al, J. Urol 2002). The suggested mechanism for this condition is that the bacterial infection acts on the immature kidney to cause increased sodium loss, which leads to high secretion of the adrenal hormones, aldosterone and renin, which can result in high blood pressure.

It has been found that about 40% of infants with UTIs have evidence of kidney scarring on imaging studies done one year after the acute infection. In view of the potential for future renal damage, diminished kidney function and, possibly, for hypertension, blood sodium and potassium levels should be measured in all infants with UTIs. If low sodium/high potassium is present, aldosterone and renin should be determined. These hormonal and salt values could serve as a basis for follow-up of possible long term complications in infant UTIs, including future kidney failure and high blood pressure.

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