

EXAMINING the Evidence

Hysterectomy and incontinence; acyclovir to prevent neonatal herpes transmission

THE QUESTION: Does hysterectomy contribute to the occurrence of urinary incontinence?

PAST STUDIES These have shown that hysterectomy is associated with the development of changes in urinary function, particularly urinary incontinence.

THIS STUDY The study population consisted of a random sample of 2,322 women between the ages of 35 and 70 selected from a suburban area in the central part of the Netherlands. These women were invited to fill out a questionnaire from the Urogenital Distress Inventory regarding their sociodemographic variables and medical history.

Of the approximately 1,626 respondents, 1,417 had no history of hysterectomy. The remaining 209 women had undergone hysterectomy for nonmalignant conditions; information on the surgical route of the procedure was not obtained.

The adjusted odds ratio of urinary incontinence for women with a history of hysterectomy was 1.4 (95% confidence interval [CI], 1.0-1.9) compared with women without such a history. Further, the adjusted odds of urge (relative risk [RR], 1.9; 95% CI, 1.4-2.6) and bothersome urge (RR, 2.6; 95% CI, 1.4-4.4) urinary incontinence were increased in women who had a hysterectomy.

The authors' findings suggest that hysterectomy is associated with a 30% increased risk of urge and bothersome urge incontinence. These symptoms were present in women younger and older than 60 years.

FIND THIS STUDY Van der Vaart et al, February 2002 issue of the *British Journal of Obstetrics and Gynaecology*; abstract online at www.bjog-elsevier.com.

WHO MAY BE AFFECTED BY THESE FINDINGS? Women who had or will have a hysterectomy.

EXPERT COMMENTARY This study explores the possibility that iatrogenic overactive bladder is an unavoidable complication of a common procedure. Why hysterectomy is a risk factor for urge incontinence is not clear, although overactivity has been linked to innervation problems of the detrusor muscle. Here, I will outline the surgical techniques of

hysterectomy and the pelvic anatomy that may contribute to the problem.

Whether the surgeon utilizes "push with a sponge stick" or "sharp dissection" techniques, detaching the bladder from its underlying anterior vaginal wall may disrupt the pelvic plexus of nerves, which contains both autonomic (sympathetic and parasympathetic) and somatic pathways. The sympathetic nerves originate at spinal cord levels T5 to L2 and wind their way from the presacral fascia to the lateral pelvic sidewall, close to the ureter. Here, they join with parasympathetic nerves to form the pelvic plexus, which innervates the upper vagina, bladder and proximal urethra.¹ Clearly, dissecting the bladder flap can disrupt the plexus. From a neurophysiologic standpoint, this disruption may explain the occurrence of de novo overactive bladder.

The pelvic surgery literature suggests that dissection of the anterior vaginal wall, especially under the bladder neck, may result in bladder dysfunction.² This investigation supports previous studies that have implicated hysterectomy as a causative factor of an overactive bladder.³⁻⁵ One weakness: Van der Vaart and associates use no clinical tools to assess bladder dysfunction, and self-reporting may be difficult to validate. At the same time, the authors point to the poor reliability of urodynamic testing as the "gold standard" in evaluating the overactive bladder.

THE BOTTOM LINE There is good reason to believe that innervation to the bladder is disrupted during a routine hysterectomy. Although we lack conclusive data, a supracervical hysterectomy may completely obviate this problem.

Until more information becomes available, we should ask our patients about frequency and urgency prior to surgery and alert them of these potential sequelae. It may only be a matter of time before we approach the hysterectomy similar to the "nerve sparing" prostatectomy.

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THE QUESTION: Does acyclovir prevent recurrent genital herpes and viral shedding in late pregnancy?

PAST STUDIES These have shown acyclovir's effectiveness in decreasing the viral load present in active lesions, thereby reducing the transmission rate. In addition, continuous acyclovir in the last 4 weeks of pregnancy may prevent recurrence at term and the need for cesarean delivery.

THIS STUDY This randomized trial from Paris assessed the efficacy of acyclovir in suppressing recurrent genital herpes simplex virus (HSV) in gravidas, reducing the need for cesarean delivery to prevent neonatal infection. Of the 288 women who presented during pregnancy with active genital HSV, 167 received acyclovir orally in a dose of 200 mg given 4 times daily from 36 weeks' gestation to term. The other 121 participants received no treatment.

At the time of delivery, all women were examined for herpes lesions, and viral cultures were obtained from the vagina and cervix. Among the 167 patients treated with acyclovir, there were no cesarean deliveries due to genital HSV, whereas in the 121 untreated women, there were 15 cesarean deliveries. No infants developed HSV infection.

The authors concluded that acyclovir treatment beginning at 36 weeks' gestation for women who have recurrent genital HSV infection in pregnancy reduces the incidence of cesarean deliveries and viral transmission.

FIND THIS STUDY Braig et al, May 2001 issue of *European Journal of Obstetrics, Gynecology, and Reproductive Biology*; abstract online at www.elsevier.com/locate/ejogrb.

WHO MAY BE AFFECTED BY THESE FINDINGS? Gravidas with genital HSV infection.

EXPERT COMMENTARY At present, cesarean section is the preferred mode of delivery to prevent neonatal herpes transmission. However, administering antiviral therapy to gravidas may be a better management option. Unfortunately, none of the antiherpetic medications, including acyclovir, valacyclovir, and famciclovir, are approved by the Food and Drug Administration (FDA) for use in pregnancy. This study and others have clarified the need to revise the current recommendations for managing gravidas infected with HSV. Until then, all pregnant women should be

screened for genital herpes during labor. Also, internal fetal monitoring should be used with caution in patients with a history of genital HSV, as local neonatal infection may occur when utilizing the fetal scalp electrode.

Unfortunately, this study does not address the problem of infants who have asymptomatic mothers but develop HSV infection anyway, nor does it examine preventive methods during pregnancy. In order to achieve a significant reduction in neonatal HSV infection in the United States, universal screening during pregnancy for HSV antibodies, along with antenatal use of antiviral prophylaxis may be the next step. Universal screening for HSV requires the availability of reliable serology tests that distinguish between HSV-1 and HSV-2. Intervention methods then could be better aimed at these populations.

THE BOTTOM LINE While there is no possibility of completely eliminating the sporadic occurrence of neonatal herpes transmission, administering acyclovir to women with genital HSV infection at 36 weeks' gestation may greatly reduce the need for cesarean delivery and the incidence of viral transmission. In addition, antiviral treatment at term of all pregnant women with a history of HSV would save \$183 per patient. On a national level, this amounts to \$36.6 million annually.¹

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