When the effects of vitamin A supplements are examined, a dose-response relation is more evident, the risk of birth defect being increased with intakes above 10 000 IU, although how far above is again not clear. With vitamin A from all sources, the risks, especially of cranial neural crest defects, increase significantly with intakes above 15 000 IU. Again, it is uncertain how far above 15 000 IU constitutes a real danger, but daily intakes below 10 000 IU seem to carry no significant teratogenic risk.

Rothman *et al*'s interpretation of their findings has been widely challenged,⁸ and the actual teratogenic risk from large doses of vitamin A may not be as great as they suggest. Nevertheless, it seems sensible to err on the safe side until further work has been done.

In terms of practical advice, dietary sources may not provide enough folate to do good or enough vitamin A to do harm, although pregnant women should still be advised to avoid liver and liver products because of their variable vitamin A content. Vitamin supplements increase the possible benefit from folate and the possible harm from vitamin A. Women who are planning pregnancy or have very recently become pregnant should not take vitamin supplements without medical advice. The simplest advice is to take only folic acid, 0.4 mg daily, starting before or soon after conception. Any woman who wishes to take a multivitamin supplement should ensure that it contains

0.4-1.0 mg folic acid and not more than 5000 IU vitamin A. This is the limit recommended by the American College of Obstetricians and Gynecologists in 1993.⁹ Although health food shops no longer stock very high dose vitamin preparations, some of their products include more than 10 000 IU vitamin A in the recommended daily dose, and small print pregnancy warnings are easily missed. It may be wiser to purchase vitamin preparations from a retail chemist.

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Postmenopausal cystitis

Urinary problems, including infection, are common and distressing in older women

Recurrent lower urinary tract infections are common after the menopause and occur in more than 10% of women over the age of 60.¹ A rise in vaginal pH promotes an alteration in the normal vaginal flora, with decreased lactobacilli leading to increased colonisation by pathogenic faecal flora. This increases the incidence of urinary tract infections, especially in sexually active women. Oestrogen deficiency also results in generalised urogenital atrophy, and postmenopausal women are therefore at increased risk not only of recurrent urinary tract infections but also of dyspareunia, vaginal irritation, pruritus, pain, and symptoms of urgency, frequency, dysuria, and urinary incontinence.²

Unfortunately, urogenital atrophy is a late manifestation of the menopause and is consequently often underdiagnosed and undertreated. Many older women fear the side effects of systemic oestrogen therapy, and few wish to suffer monthly withdrawal bleeds from the commonly used hormone replacement therapy of oestrogen and cyclical progestogen. However, oestrogen therapy does promote recolonisation by vaginal lactobacilli, reducing both vaginal pH and proliferation of Gram negative faecal uropathogens.³

Uncontrolled studies have shown that low dose oestrogen therapy decreases the incidence of recurrent urinary tract infections.⁴ In the largest controlled study of its type to date Raz and Stamm showed that vaginal oestriol cream was significantly more effective than placebo in reducing the incidence of urinary tract infections, suggesting that treatment with low dose topical oestrogen may be adequate for this condition.⁵

For those women in whom oestrogen therapy is ineffective or inappropriate, it is important to exclude underlying pathology. This should include a pelvic examination, cystoscopy and bladder biopsy, intravenous urography, and, where indicated, urodynamic studies. Thereafter, antibiotic treatment should be based on microscopy, culture, and sensitivity testing of a midstream specimen of urine. Sometimes a long course of low dose antibiotics is required to eradicate infection. Symptoms may be caused by fastidious organisms, which will not be

identified unless their culture is specifically requested. *Ureaplasma urealyticum* and *Mycoplasma hominis* require long term treatment (about three months) with low dose tetracyclines or erythromycin. Those women who suffer from postmenopausal cystourethritis in association with sexual intercourse may be advised to use a vaginal lubricant and a prophylactic antibiotic such as norfloxacin 400 mg at the time of sexual intercourse, as well as general hygienic measures including voiding to completion after sexual activity.⁶

Not all postmenopausal cystitis is bacterial, and interstitial cystitis should be identified at cystoscopy and by an increased mast cell count on bladder biopsy. This condition is difficult to treat, but patients may benefit from hexamine hippurate 1 g twice daily and a tricyclic antidepressant such as imipramine or amitriptyline given at night. Alternatively, low dose corticosteroids (prednisolone 15 mg daily for the first month, 10 mg daily for the second month, and 5 mg daily for the third month) may be used. Finally, it is important to remember that irritative bladder symptoms, including urgency, frequency, and dysuria, may not necessarily be caused by cystitis. Medical conditions such as diabetes should be considered, and pelvic pathology such as fibroids must be excluded. In those women who do not respond to simple measures further investigations should be undertaken, including urodynamic studies.

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