Oestroprogestagens and severe acute pyelonephritis: a casual or causal association?

Sir,

Acute pyelonephritis is an emerging infectious disease. Because the reasons for its increase are unclear and because the costs of therapy are high, the search for risk factors is of great importance [1,2]. We would like to report on a further potential risk factor, at least for the development of severe disease: oestroprogestagens, identified in the retrospective study of a series of 58 consecutive patients with severe ‘primary’ pyelonephritis, hospitalized in our Nephrology Centre.

As in the usual series of acute pyelonephritis, all cases were young females (median age 25.6 years, range 16–52).

However, presumably due to a selection bias of the patients, referred to a large University hospital usually after at least a trial of antibiotics (empiric antibiotic therapy in the 2 days preceding the hospitalization was reported by 55 out of 58 patients), all our patients had a severe disease requiring hospitalization; acute pyelonephritis was suspected on the basis of the usual clinical picture and confirmed by the demonstration of parenchymal renal involvement by computerized tomography and/or nuclear magnetic resonance [3–5].

By definition, no patient had any abnormalities of the urinary tract, nor systemic diseases or diseases potentially affecting the immune response.

As a result of the recent antibiotic therapy, the prevalence of positive urinary cultures was low: 12 out of 58 cases (20.7%); Escherichia coli was the most frequent pathogen (eight out of 12); Staphylococcus epidermidis, Staphylococcus aureus, Enterococcus faecalis and Torulopsis glabrata were found in one patient each.

The prevalence of the commonly reported risk factors was in the usual range (recurrent urinary tract infections, 59%; previous stone disease, 17%).

The prevalence of oestroprogestagens therapy was, however, higher than previously reported: 75.9% in the whole group and 74.1% for the 54 patients aged <44 years. This prevalence is well above Italian standards (~20% in women aged 15–44 years [6]), and is remarkably higher than that which was reported recently in a large case-control study on risk factors for acute pyelonephritis (24.8% in cases, 24.7% in controls) [1]. In that study, only spermicidal agents and sexual behaviour were significantly correlated with disease risk [1].

The main differences between the two populations were the severity of the disease (only 7% of the 242 recently reported cases were hospitalized, vs all patients in our series [1]) and the type of diagnosis: in the recently published study, the diagnosis was based on clinical grounds, whereas in our series all cases had a radiological demonstration of parenchymal lesions [3–5].

Indirect evidence is contradictory: oestroprogestagens diminish vaginal atrophy and reduce the risk of lower urinary tract infection in post-menopausal women [1]. Conversely, urinary infections are more frequent in sexually active women, and the high prevalence of birth control agents may be only indirect evidence of this lifestyle. However, hormonal agents are able to modify the resident bacterial flora, with increased risk of vaginal infections, in turn a risk factor for urinary tract infections; furthermore, contraceptives may enhance bacterial adhesion to the urothelium, an important issue in the development of acute ‘non-complicated’ pyelonephritis [7,8].

While the difference in findings between our series and that of Scholes and co-workers is not readily explainable, the present report may suggest testing on a larger scale the hypothesis that the use of oestroprogestagens is a risk factor at least for the development of severe acute pyelonephritis, with radiological evidence of renal parenchymal lesions and requiring hospitalization.

Conflict of interest statement. None declared.

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Changing mizoribine administration from three divided doses to one single dose induced remission of relapsed membranous nephropathy

Sir,

We describe a 75-year-old female with membranous nephropathy who was administered 150 mg of mizoribine in three separate doses of 50 mg. At this time, urinalysis was negative for protein. Membranous nephropathy relapsed in January 2005, and urinalysis was positive for protein. In addition to mizoribine, prednisolone 5 mg/day was started on February 28, and urinalysis was negative for protein once again on and after April 19. However in November, membranous nephropathy relapsed again, and her urine gave...