Incidence of cystine dependent Escherichia coli in a general practice population

Cystine dependent isolates of Escherichia coli associated with urinary tract infection are now well recognised. Media supplemented with cystine have been specially formulated to detect these strains. We undertook a study to determine the incidence of cystine dependent isolates from patients in a number of general practices in Cardiff. This study was also designed to evaluate the need to use a cystine supplemented medium in preference to a bile salt medium (such as MacConkey agar) for the processing of specimens from such a population.

One hundred and twenty specimens of mid-stream urine from patients with symptoms suggestive of a urinary tract infection and an appreciable degree of pyuria (white cell count of >10 per mm³) were plated on to aerobic blood agar and MacConkey agar and incubated overnight. The urine samples were then refrigerated. The next day, if there was no growth on blood or MacConkey agar and no evidence of previous antibiotic treatment on the request form, the urine sample was plated on to cystine and lactose electrolyte deficient (CLED) agar and incubated for a further 24 hours. The sample was not cultured for Mycobacterium tuberculosis since in this laboratory tuberculosis is rarely isolated in cases of sterile pyuria. If any colonies of E. coli appeared on the CLED agar they were subcultured to MacConkey agar to determine whether they were genuine cystine dependent isolates. Such strains do not grow on this medium and none was obtained from any of the 120 urine samples in this study.

It appears that the incidence of auxotrophic strains of E. coli is probably low in the population served by our laboratory. This accords well with the observation that these organisms are rarely seen in acute urinary infections, being more commonly implicated in chronic conditions, especially after use of indwelling urinary catheters. The results of this study also suggest that the use of cystine supplemented agar media has no particular advantage over MacConkey agar for patients from a general practice population presenting with acute urinary tract infections.

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Factors II, VII, IX, and X concentrations in patients receiving long term treatment with warfarin

We read with interest the paper by Paul et al about concentrations of factors II, VII, IX, and X in patients receiving long term treatment with warfarin. We would like to report the results of our study in which we compared activated partial thromboplastin times (APTTs) and British ratios in 50 patients receiving long term warfarin treatment.

The patients selected were in the therapeutic range and had been on at least three occasions in the previous six months. British ratios were measured using the Manchester comparative reagent and APTTs using the Manchester APTT reagent. Results showed a good correlation between the APTT and the British ratio (r = 0.74).

We then selected the 15 patients with the highest APTTs and measured factor IX concentrations in their stored plasma samples. Two high factor IX concentrations of 1-6 IU/l and 25-0 IU/l; their British ratios were 4-4 and 2-3, respectively.

Thus patients with a well controlled prothrombin time (which is not sensitive to factor IX) may have considerably reduced factor IX concentrations. We agree with Paul and her colleagues that we should not assume that patients receiving long term warfarin treatment have an equal reduction of their vitamin K dependent factors; some may be more depressed than others, despite "good control."