described above for 2 h, during which viability was monitored by standard plate count methods. Sabouraud dextrose agar (Difco Laboratories, Detroit, MI) was used to prepare duplicate pour plates with culture samples appropriately diluted in saline containing 0.02% Tween 80.

In the direct comparison between miconazole and tamoxifen presented in the Figure, it should be noted for reference that 20 μm represents 7–8 mg/L of free base drug for each of the two agents. It seems clear from the data that on a mole for mole basis the fungistatic and fungicidal activities of miconazole and tamoxifen against the test organism were very similar, if not essentially identical. Since there is evidence to suggest that miconazole at the 20 μm level exerts its rapid and extensive lethal action via direct physicochemical cell membrane damage (Beggs, 1993b), the possibility is raised here that tamoxifen might also kill C. albicans by this type of mechanism.

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References


Lack of increase in resistance to quinolones in general practice isolates of Escherichia coli

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Sir,

Since the clinical introduction of fluoroquinolones, the emergence of resistance has involved mainly strains of Pseudomonas aeruginosa, Staphylococcus aureus and Enterobacteriaceae, such as Klebsiella, Enterobacter and Serratia spp., in hospital-acquired infections as well as in private institutions such as nursing homes where circumstances may be similar to some hospital wards (Weightman & Brass, 1993). Recently, Spanish investigators (Aguiar et al., 1992) reported in this journal on the evolutionary trend to high level quinolone resistance in Escherichia coli isolated from community-acquired urinary tract infections in Madrid. Our own data are somewhat different. By the end of 1989, in France, ofloxacin was the first fluoroquinolone intended for systemic therapy released in general practice for the treatment of a wide range of infections, including respiratory tract infections. Since then, we have carried out an annual survey of the susceptibilities of E. coli isolated from domiciliary infections to quinolones as well as to other drugs currently prescribed in general practice.

From 1990 to 1992, within the same three month period of the year (April to June), 925 consecutive and clinically significant isolates of E. coli from general practice were collected at three private clinical laboratories in greater Paris. Most strains (93.5%) originated from...
Table. Susceptibilities of general practice isolates of *E. coli* from 1990 to 1992

<table>
<thead>
<tr>
<th>Period</th>
<th>No. of strains</th>
<th>nalidixic acid</th>
<th>ofloxacin</th>
<th>amoxycillin</th>
<th>co-amoxiclav</th>
<th>co-trimoxazole</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>317</td>
<td>92.7</td>
<td>98.1</td>
<td>65.3</td>
<td>82.6</td>
<td>81.4</td>
</tr>
<tr>
<td>1991</td>
<td>309</td>
<td>96.1</td>
<td>98.7</td>
<td>69.3</td>
<td>78.0</td>
<td>87.7</td>
</tr>
<tr>
<td>1992</td>
<td>299</td>
<td>93.6</td>
<td>98.7</td>
<td>64.2</td>
<td>74.9</td>
<td>85.6</td>
</tr>
</tbody>
</table>

$P$ between years:
- 0.103
- 0.853
- 0.565
- 0.06
- 0.08

*MICS (mg/L): ≤ 8 for nalidixic acid, ≤ 1 for ofloxacin, ≤ 4 for amoxycillin or co-amoxiclav and ≤ 2/38 for co-trimoxazole.

urinary tract infections. The in-vitro activities of nalidixic acid, ofloxacin, amoxycillin, co-amoxiclav and co-trimoxazole were evaluated using the standard disc-diffusion test at each centre. MICs of ofloxacin for all intermediate and resistant strains were determined by the agar dilution technique at the Centre de Diagnostic Medical Galilée. Statistical comparisons were made using the chi-squared test or the two-tail Fisher's exact test when necessary.

The results of susceptibilities according to French interpretative guidelines (Acar et al., 1993) presented in the Table demonstrate that resistance to quinolones remained unchanged during the three periods. Moreover, resistance (intermediate plus resistant strains) to quinolones was more frequent in patients more than 75 years old ($P < 0.001$ and $P = 0.009$ for nalidixic acid and ofloxacin respectively), and in those who had received quinolones up to one month before specimen collection ($P = 0.002$ and $P = 0.04$ for nalidixic acid and ofloxacin, respectively). This latter finding was not characteristic only of quinolones since similar data were obtained for susceptibilities to amoxycillin and co-amoxiclav in patients who had received $\beta$-lactam antibiotics up to one month before specimen collection ($P < 0.001$ for amoxycillin or co-amoxiclav).

Our data showing the lack of evolution towards quinolone resistance in general practice isolates of *E. coli* are not in agreement with those of Aguiar et al. (1992) even though the two studies seem comparable. Isolates from non-hospitalized patients were examined in both studies. Moreover, although the exact figures for consumption of antibiotics are not available for investigators in France, our country is considered to be a geographic zone of high fluoroquinolone use since norfloxacin became available to general practitioners in 1986. Both studies investigated the same three year period after the introduction of a fluoroquinolone intended for systemic therapy (ciprofloxacin in Spain and ofloxacin in France). In London, others (Grüneberg & Felmingham, 1993) found no change in susceptibility to ciprofloxacin in the same type of isolates between 1987 and 1992. Differences in local antibiotic policies and/or observance of treatments may account for differences in quinolone susceptibility profiles of *E. coli* isolated in the community. However, in the future, continuous monitoring of susceptibility patterns among general practice isolates is warranted not only for quinolones but also for all currently prescribed antibiotics.

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