

ABSTRACT

We've investigated the in vitro synergistic antibacterial potential of selective serotonin reuptake inhibitors (paroxetine and fluoxetine) and antibiotics (represented by tetracycline and nalidixine).

Activity has been measured against four bacterial CCM strains (*Escherichia coli*, *Pseudomonas aeruginosa*, *Bacillus subtilis* and *Staphylococcus aureus*) and eight tetracycline-resistant strains (*Escherichia coli* and *Pseudomonas aeruginosa*).

Synergy tests were performed using checkerboard method. We've observed growth or growth inhibition of bacteria, marked the "border" points area out and converted these points to values of relative concentrations in a graph. According to the under-graph area we've counted the CRIC. This coefficient has shown us the type of antibacterial interaction of the SSRI and antibiotics.

In most cases we have observed addition of antimicrobial activity of the SSRI and antibiotics (either CCM strains or tetracycline-resistant strains), sometimes indifference and in rare cases also synergism (tetracycline- -paroxetine and tetracycline-fluoxetine against *E. coli* 2468, nalidixine-fluoxetine against *S. aureus* CCM, tetracycline-fluoxetine against *Pseudomonas aeruginosa* 421).

We have observed a decrease of resistance to tetracycline only in one case (tetracycline-paroxetine against *E. coli* 2468). There has been a significant increase of sensitivity to the tetracycline, but needed concentration of the SSRI has exceeded in vivo values.

Minimal inhibitory concentration of the SSRI in CCM strains have corresponded with values of MIC of the resistant strains (the sensitivity to the SSRI hasn't been influenced by the sensitivity to tested antibiotics).