SUMMARY

A view on combination analgesics develops continuously. Position of these combinations was discredited in the past due to preparations containing irrational combinations with barbiturates and phenacetin showing low safety. A developing knowledge on mechanisms of transmission and modulation of pain has resulted in a comeback of analgesic combinations. The effect on transmission of pain at various levels and thorough preclinical and clinical proof of efficacy and safety are the basic prerequisities. In analgesic combinations we can accomplish an enhancement of analgesic effect by an agent showing no analgesic properties alone; combination of two analgesics may result in additive and in ideal case, synergic action of both components. Effect on pharmacokinetic properties of individual components can be of significance as well, e.g. by increasing the rate of the onset of analgesic effect.

The objective of our work was to select and evaluate new combinations of non-opioid analgesic drugs (paracetamol, ibuprofen, diclofenac, nimesulide) and neuropsychotrophic agents (alprazolam, guaifenesin, clonidine, memantine).

Antinociceptive activity of combinations was tested using several well-established experimental models of pain in animals – acetic acid writhing, hot-plate, tail-flick, plantar test.

In our experiments we have seen strong enhancement of analgesic potency of paracetamol, ibuprofen and nimesulide by guafenesin, only mild augmentation of analgesic effect of ibuprofen by alprazolam and synergic efficacy in combination of ibuprofen plus clonidine.