

Abstract of the PHD thesis

DESIGNS OF EXPERIMENTAL MODELS FOR HOMEOPATHIC RESEARCH IN SURGICAL AND MEDICAL PATHOLOGY

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The thesis approaches an interdisciplinary subject concerning borderline homeopathic research with implications for medical, surgical and pharmacy domains.

Background

The actual knowledge in the theory of homeopathy and the level of the research in this area nowadays lead to a controversial state of the efficacy of homeopathic medicines in different areas of pathology. This controversy arises from the very low doses used usually in homeopathic medicines, based on the specific mode of their preparation, which implies serial dilutions usually in steps of 1/100 or of 1/10 intercalated with steps of dynamic activation by mechanic succussion. This procedure leads to high or very high dilutions, some of them even not being theoretically able to retain original molecules of the substance in the solution.

Several of theories have been stated concerning the way of action of the homeopathic medicines and many research trials have been conducted. Due to the need of individualization of treatment according to the constitution and pathologic reaction type of the patient according to the principles of homeopathy some trials didn't show any evidence of difference from placebo.

This is why in my opinion experimental animal models could be a solution to gain objective evidence of the action of homeopathic medicines. For this I conducted a series of studies based on experimental models with mice and rats designed and adapted especially for homeopathic research.

Materials and method

456 laboratory animals were used, 206 Wistar rats and 250 AKR2 mice from the experimental station of the University of Medicine and Pharmacy Târgu-Mureș. 8 experimental studies were made on 8 different experimental models, from which 4 on surgical induced pathology and 4 on medical pathology induced chemically or physically.

Animals were randomized in study groups, each study had a placebo group and different groups treated with homeopathic medicines chosen according to the homeopathic law of similars, also groups treated with the standard allopathic medication and dose for the induced pathology and also with groups which were treated with combinations of homeopathic and allopathic medicines. In all the studies the European Convention for the Protection of Vertebrate Animals used for Experimental Purposes was respected and the opinion of the ethics committee was asked when necessary. In all cases statistic calculations were performed and an aim of statistic significance of $p < 0,05$ was set.

I considered important to give the homeopathic medication immediately or as soon as possible after the symptoms or injury onset, as this is very important in the homeopathic clinical practice and leads to better results.

Studies and results

The first study was performed on 56 rats and aimed to evaluate the influence of homeopathic medication consisting of Staphysagria CH 7 compared with placebo upon the stabilisation of skin grafts. The surgical procedure consisted in the prelevating a skin fragment from the lateral dorsal region and transplant it contralaterally with one of the areas remaining uncovered with skin. Statistical results showed favorable impact of homeopathic medication upon the number of rats with successful grafts, 22 of 28, compared to 12 of 24 in the placebo group.

The second study evaluated the effect of Arnica CH 7 treatment of edema caused by experimental concussion of the posterior limb of 40 mice. This was done by a standardized trauma of the limb with a Kocher forceps closed to the second tooth. Homeopathic medication and placebo were administered immediately after the trauma and the swelling was monitored over 180 minutes, with statistically significant results from homeopathic treated group. Edema in mice treated with Arnica CH 7 showed a maximum at 15 minutes and completely disappeared after 105 minutes, while the placebo group had a maximum at 105 minutes and the edema was still present after 180 minutes when the observation ended.

The third study aimed to compare Staphysagria and Arnica preparations, each in the homeopathic dilutions CH 7 and CH 30 compared to placebo with regard to their effect on the required surgical wound healing time in 75 rats. Each animal underwent an incision in the femoral region and the animals were randomized into 5 groups. All the variants of homeopathic treatment proved statistically superior to placebo in terms of healing time, with a shortening by 30% under treatment.

The fourth study evaluated the response of rats with experimental subcutaneous implant of foreign body under treatment with different homeopathic dilutions of Silica. The study included a total of 45 rats on which one piece of laboratory glassware ball was introduced under the skin through a surgical incision in the dorsal region, with the skin then sutured. The animals were then divided into 5 groups treated with homeopathic Silica dilutions CH 5, CH 7, CH 15, CH 30 and placebo. The results showed that Silica CH 7 has the ability to induce spontaneous fistulization and evacuation of foreign body in a significant number of rats compared to placebo and other dilutions.

The fifth study evaluated the ability of the homeopathic medicine Apis in dilutions CH 7 and CH 15 to influence the inflammatory edema induced by experimental inoculation of formaldehyde in the posterior limb of 70 mice. Mice were divided into seven groups and treated with Apis CH 7, Apis CH 15, Hemisuccinat Hydrocortisone, Diclofenac, combination of Hemisuccinat Hydrocortisone and Apis CH 7, combination of hydrocortisone hemisuccinat and Apis CH 15 and placebo. The results showed a prompt and marked reduction of dorsoplantar edema in the groups that included homeopathic medicines. This treatments proved superior in this experiment compared to hydrocortisone hemisuccinat and diclofenac alone. The most pronounced anti-inflammatory activity showed the combination of hydrocortisone hemisuccinat in association with Apis CH 15.

The sixth study was performed on 80 mice in an experimental model that evaluated the ability of pilocarpine to induce salivation in mice and atropine ability to block the action of pilocarpine, compared with the influence of homeopathic medicine Belladonna in CH 7 dilution to counter the action of atropine. The results showed that this effect can be obtained by making the muscarinic receptor able again to respond by triggering salivation after the administration of pilocarpine after atropine effect was reversed by the administration of homeopathic Belladonna CH 7.

The seventh study was conducted on an experimental model in which a strychnine poisoning was induced in 60 mice, divided then into 3 groups of 20 who received respectively diazepam as anticonvulsant, homeopathic Nux Vomica CH7 and placebo. The time was monitored until each animal showed convulsions and then death, and also the number of animals experiencing seizures and the number of deaths was count. Results showed the ability of the homeopathic medicine Nux Vomica CH 7 to delay and partially prevent convulsions and death in homeopathically treated mice group compared with those treated with diazepam or placebo, which showed shorter time to onset of convulsions and death. Note that only the group treated with homeopathic Nux Vomica CH 7 contained animals that had no seizures in 30% and mice that did not die at a rate of 20%, with the same dose of strychnine.

The eighth study aimed to induce an experimental degree burns to 30 rats with left posterior limb immersion in water at 55°C for 20 seconds. This way a local inflammation was obtained, the the animals were randomized into 3 groups receiving different homeopathic treatment: Apis CH 7, Belladonna CH 7 and placebo. Days necessary for the healing of burns were numbered in all rats. Results showed that burn healing time was significantly shorter in animals in the group treated with Apis CH 7, followed by those treated with Belladonna CH 7, both statistically superior to placebo in shortening this time.

Conclusions

All the studies led to statistically significant and objective results demonstrating the difference of most homeopathic dilutions from placebo.

Some homeopathic dilutions proved a superiority of therapeutic effect over allopathic medicines used for comparison.

The reproducibility of the results obtained on animal experimental models gives the possibility to extend the research in this area of medicine.

The experience provided by this work supplies reliable experimental models to test not only the effects of homeopathic medicines but to establish different aspects of homeopathic theory and common clinical practice.

Keywords: *homeopathy, homeopathic research, homeopathic medicines, experimental models, high dilution*