Discussion on Papers

LENFELD J : I see the biggest positive of this afternoon in the fact that we have learned collectively about the results of theoretical research and about the clinical results obtained by cannabis extracts. We underline the difficulties of our pharmacological research and do not hide the differences in our experimental experience compared to the experience of clinicians. These contradictions need to be explained and eliminated. According to our orientation experiments, we conclude that the differences probably result from the solvents used. In particular, it will be necessary to focus our attention on vehicles that we have not used so far and that are common in dental pastes. It should also be noted that especially local anaesthesia and irritability were tested in our experiments on a different substrate than in dentistry. However, it would certainly be instructive to check the histological effect of extracts in dental practice. (Abstract.)

DOSTÁL M. (VLA in Hradec Králové): Given that I lacked a brief conclusion in the report from the Institute of Pharmacology, I will try to do it myself, taking into account other papers. Above all, Cannabis extract is more effective than individual isolated components. Pharmacologically, both the resorptive effects of the extracts and its local effects were monitored. Experiments on white rats show that AD (I hope it is AD 50) is around 50 mg/kg. A dose 10 times greater, it is almost hypnotic, it removes the spasmodic effect of Pentazole and strychnine. A dose 36 times greater than AD 50 is LD 50. Given that in the case of these resorptive effects, the method of administration of the extract does not significantly affect the effect, I assume that the extract is slowly absorbed, probably the same with all methods of administration. I wonder how long it took for the described resorptive effects to begin. Furthermore, I do not know whether and how the vehicle affected the onset and quantity of resorptive effects. As far as local effects are concerned, in rabbit experiments, 10 % of the solution was found to have an anaesthetic effect on the cornea and 5 % of the solution to have an anaesthetic effect on infiltration. I suppose that the effect of the vehicle was also tested in these experiments! As far as the antimicrobial effect is concerned, it is not clear to me whether we are justified in calling the effect of the extract antibiotic. After all, in vitro experiments can so far only confirm bacteriostatic and bactericidal effects. As far as therapeutic successes in practice are concerned, it is clear that the effect is mainly locally bactericidal and locally anaesthetic. It is not possible to talk about overall respite effects. (Abstract.)

KLABUSAY L. (reply to Dr. Dostál): We did not mention a brief summary at the end of our lecture because the whole work is actually a brief and preliminary summary of the results achieved, which were clearly separated and logically delineated. As has been said, if an unabsorbed substance is found in the muscle with local tolerance, the preparation is indeed slowly and poorly absorbed. However, this does not mean, as Dr. Dostál believes, that it must be absorbed in the same way from all methods of administration. After oral administration, the effects appeared in about 60 minutes, after i.p. in 15 - 20 minutes, after subcutaneous administration in 15 - 40 minutes. Similarly, we did not submit detailed documentation, because the report was an overview of the pharmacological properties of substances from cannabis found so far, and therefore we considered detailed documentation to be unnecessary. The work is not, as has been said, finished, but is and remains a preliminary communication. It was clearly stated in the report that in the monitoring of the locally anaesthetic effect, the same number of control animals were used as those who were given only the solvent. We hope and are convinced that it is self-evident for all of us that we cannot talk about an effect of a drug without making sure that the solvent in which the drug in question is applied does not have these properties. (Abstract.)

ŚANTAVÝ F. (reply to Dr. Dostál): The question of dissolubility is given by the chemical nature of the substance. Since in this case, as it has been found, it is a matter of acidic nature that are responsible for the antibacterial effect in cannabis, it will probably be possible to prepare well-soluble compounds by converting them into sodium or potassium salts. Finally, the solubility of these substances in soda or puddles was mentioned by Dr. Krejčí and the isolation of the active extract was based on the same principle.

KABELÍK J. (reply to Dr. Dostál): Antibiotics are not yet precisely defined, there is no exact boundary between them and antiseptics and chemotherapeuticals, it is enough to look at any monograph on antibiotics and phytoncides. Therefore, for our purposes, we have defined this term for substances of more complicated structure, produced by living organisms that act against other organisms in their surroundings, whether they are substances directly producing organisms that protect or happen to be directed against other organisms that the producer of the antibiotics in question does not normally encounter.

The question of the vehicle is very important. We know this, for example, from vaccinohrapia and vaccinoprophylaxis. For example, the vehicle can retain the active substance so perfectly that it cannot have any effect at all, as can acid. Salicylic or benzoic acid in oily creams cannot prevent them from molding.

For the sake of brevity, we are talking about water solutions of substances from Cannabis, but it is always about emulsions, not about real solutions. (Abstract.)

JANDÁSEK (Brno): It will be interesting to observe the antitoxic effect of these cannabis extracts and he is willing to do this research.

KABELÍK J.: We accept with gratitude, but it will be possible to carry out it when we obtain more experimental material.

HUBÁČEK J. builds on Navrátil's statement and draws attention to the importance of resistant flora in the ears of chronic diseases (proteus, pyocyaneus). But surprisingly, a beneficial effect can sometimes be observed even on a resistant microbe. Here, perhaps, the analgesic effect and the beneficial effect on tissue regeneration, e.g. chlorophyll, come into play.

BAŽANT (Prague) believes that the calcium salt of active substances could be used in the treatment of dental caritas.

Another discussion (Prof. Bažant, Dr. Gašparík and Assoc. Prof. Šimek) concerned the problem of suitable water preparations and a suitable vehicle that would release the right active substances. This also applies to Ležovič's pad containing concentrated most effective antibiotics and antiseptics, with which the cannabis extract will be constantly compared. The results so far show the equivalence of both, with the advantage of the analgesic effect of cannabis. Hopefully, both methods will complement or combine perfectly.

DOSTÁL draws attention to other questions in research: combination with antiseptics, what effect does H2O2 have (in cases of otitis described by Dr. Hubáček) and comparison with Gramicidin.

ŽIŽKA Z. (Institute of Microbiology in Olomouc) points out that it will also be necessary to determine the sensitivity of anaerobes, especially clostridia, and then to study whether and how microbial resistance to substances from Cannabis develops.

KABELÍK J. : So far, no development of resistance has been observed in sensitive microbes. Anaerobs have not been tested yet, it will be necessary, acid-stable strains of bacteria will also have to be examined in more detail, as well as pathogenic yeasts and fungi, also viruses and toxins. So far, an excellent effect on mixed aerobic-anaerobic infection has been found by chance at a doctor who infected his finger in this way from the autopsy, and the highly painful infection did not regress to penicillin, streptomycin, terramycin, or other antibiotics including tyrothricin. After applying our cannabis product overnight, the pain calmed down, the patient slept without narcotics for the first time after many days, and the whole affection took a turn for the better, to full recovery. The finger was saved from amputation. I would also like to thank you for all the good suggestions and offers of cooperation, the difficulties are both in the small number of workers and in the lack of material, everything was provided by the company's own strength from its own cultures and the problem was not solved by researchers if they had enough time for teaching and other university tasks.

ŠANTAVÝ F. points out that the amino acids of milk in the diet of adults need to be supplemented with some other proteins rich in plant proteins. Although the lipid component (hemp oil) is usually removed in the preparation of dishes from the seed according to Šírek, many lipid substances can be transferred to the preparations and especially unsaturated fatty acids can be significantly used here. He points out some modifications in the preparation, which can also include these other healing ingredients more strongly in dishes.

KABELÍK J. : Some fatty acidins themselves are important chemotherapeuticals in acid-resistant microbes, e.g. chalmoogra in leprosy. An unsaponifiable component may also be important, phytosterols may be chemically close to female and adrenal hormones (substances in licorice and desoxycorticosterol). (Abstract.)

FILIP (Poděbrady): It is praiseworthy that Šírek reminded us of the principle of an undenatured and light diet and substantiated it with a convincing case report in tuberculosis. It is especially appropriate here, as it is an anti-inflammatory and desensitizing diet. The diet for tuberculosis must be dynamic, sparing the liver, so do not overfeed the sick. Oatmeal is also important, reminiscent of Benner-Bischer's muesli made from almost raw oatmeal, apples and nuts. (Abstract.)

ŠÍREK J. : Afterword: Not only the advantageous composition of amino acids, but also other stimulating substances will be used in the diet based mainly on milk and casein, oatmeal, eggs and seed.