Objective

One of the problems of the medication is its targeting: the systematically administered drugs are distributed in the whole body by the blood, irrespective of its origin by i.v. infusion, orally taken or getting by muscular injection, rectal suppository, skin injected, inhalations etc. However, the delivery and the site effect of the given drug to the target is a crucial point of the treatment. This is also the main point of the personalization of the drug administration in every medical actions and especially important in the oncology, where the toxicity is an effective danger. Objective of our presentation is to introduce the device, which is devoted to help in this line of the problems: the chemo booster.

Method

The drug is in all systematically administered cases delivered and distributed by the bloodstream. The task to increase the drug concentration in a given volume is increasing the blood flow in the targeted area. Higher temperature could activate the reorganization of the capillaries (capillary filtration capillary pressure, etc.), increasing the micro vascular perfusion, local tissue oxygen, nutrients, and phagoocytes to the area being targeted. It could also regulate the cell cycle by changing calcium ion binding.

Results

A small device has been developed to heat up the whole volume under the electrode in full depth. It has no targeting effect on the ophthalmic lid (it has no cellular selection or bioaffect). It is a simple local heating device, the heating is generated by Joule law in the body, and makes vasodilation there. The vasodilated volume has higher blood perfusion which delivers more drug (and more oxygen) to the target and relatively decreases it form the other areas of the body. This is a drug boosting in a required volume, but it does not make any more selection. The temperature range is 37-38°C, which is optimal for boosting function. The booster works not only by the vasodilation but also could be combined with the pharmacological parameters of the given drugs, activating the chemo reactions and the reaction rate by the higher temperature or the targeted volume. Its application covers a wide range of diseases. For example it could be used for therapy, post, pain management, arthritis, dermatology, muscle spasm, sport injuries, gynecology, allergy, rhinitis, common cold, pediatric diseases, nerve healing, bone healing (cure of any published clinical studies that are proven), corneal (like adhes problems, epithelial, scars, blebs, etc.), support of the general rehabilitation process. It has a little invasive effect on wound healing as well.

Conclusion

The novel device from Oncotherm Company is not for oncotherapy alone. This universal small device could be indispensable support for the actual treatments by various medications, and could be essential for the personalization processes.

This is not a curative device! This helps for personalizing and targeting every medications administered systematically, irrespective which disease is treated. The treatment is provided by the medication, the booster makes its personalization.

References