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Treatment by Ozone and a Parasympathomimetic Drug in Liposome Cream on Knee after Surgery or Trauma

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ABSTRACT

Verify the pain relief by applying a parasympathomimetic drug in liposomes cream distributed supra cute males, in-group of patients suffering from painful knee, after surgery or trauma.

This study was carried out in double blind.

Material and Methods: From 2022 to 2023, the authors, on double blind method, of which 34 females and 84 males, average age, studied 118 patients 49 years old, suffering from painful knee, after surgery or trauma. by application of a parasympathomimetic drug diluted in liposomes cream, at a dose of 20 mg in 150 ml of cream, for 20 session, after ozone by 10 ml for each treatment.

For each patient, the intensity of pain was assessed by the visual analogue scale (VAS) and the assessment of functional impotence with the 5 levels of the semantic scale:

A = Absent
AA = Almost Absent
M =Mild
R = Remarkable
T = Total
Detection occurred at T0', T10', T20', T60' after each medicated session.

Results: Of118 patients, 34 females and 84 males, therefore 85,00% of the total obtained a good pain control with restoration of functional activity (See poster's graphic).

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This electron microscopic study verified the existence of postganglionic sympathetic fibers within Pacinian corpuscles previously reported by use of the fluorescence histochemical technique of Falck and Hillarp for the cellular localization of the biogenic amines.

Thin (less than 0,5 micro mm) unmyelinated nerve fibers, different from the main axon, were found at 4 different sites within the Pacinian corpuscles:

- **Site 1:** in one or two bundles among the outer lamellae of the proximal myelinated segment;
- **Site 2:** as a single fiber or as two separate fibers in inner core region of the unmyelinated terminal segment, a few lamellae away from the main axon;
- **Site 3:** as a single fiber or as two separates fibers in the inner core region of the unmyelinated terminal segment, closely opposed to the main axon, without intervening lamellae;
- **Site 4:** in the adventitia of the arterioles within the proximal myelinated segment. Dense core vesicles (60 nm) are present within thin axon found at site 1-4.

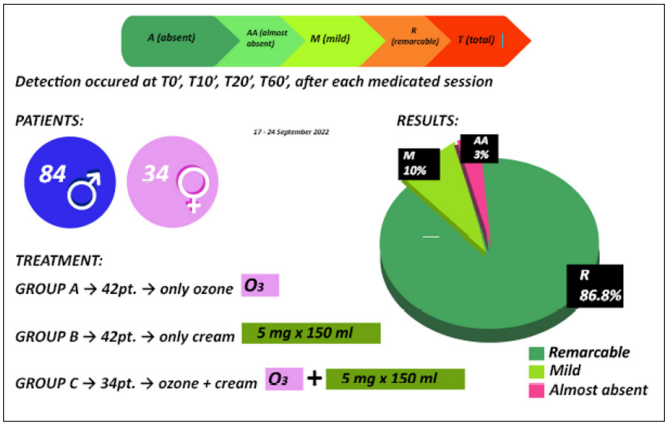
It is suggested that the axon profiles devoid of dense core vesicles may be either preterminal postganglionic sympathetic axon or non-sympathetic fibers, and that the axon bundles of site 1 may be TIMOFEEW fibers, which were originally reported to be present in the outer lamellae of Pacinian corpuscles.

The significance of these findings was discussed in view of Mount castle's unifying proposition, which was a modern restatement of Merkel's original point of view, that all sensory nerve, are chemoreptors.

The same authors, Maurizio Santini and Yasuhiko Ibata, in Brain Research 1971, presented an electron microscopic examination of muscles spindles of tenuissimi and lumbrical muscles of 4 cats, one, with 5-HDA, revealed that within the capsular spindle interior and at the extracapsular polar region there are bundles of thin axons (less than 0,5 micro mm). Bundles of thin axons, with and without large dense vesicles, following 5-HDA treatment, were also observed a few microns away from intramural neuromuscular junction and from intramural muscle fiber membrane. Also, following 5-HDA treatment, thin axons with large dense vesicles were seen in bundles, which included larger unmyelinated axons, presumably of the lambda-type, devoid of large dense vesicles.

The possibility that the axons exhibiting large dense vesicles, following 5-HDA treatment, is discussed, by the afore-mentioned authors, are postganglionic sympathetic, and the suggestion is made that the remainder of the thin axons in the bundles, these devoid of the large dense vesicles in semi-serial section, are cholinergic [1,2].

For each Patient, the Intensity of Pain was Assessed by the Visual Analogue Scale (VAS) and the Assessment of Functional Impotence with 5 level of the Ematic Scale.



Conclusion

The application "supra cute" of a parasympathomimetic drug in liposomes cream, and ozone treatment has proven effective in 85%,00 of cases with good pain control and restoration of functional activity.

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