MedCrave
Step into the World of Research
International Physical Medicine & Rehabilitation Journal

Research Article

Open Access

Effectiveness of alvogil in the treatment of alveolitis

Summary

There are controversies in relation to the benefits of using Oleozon in the treatment of Alveolitis Dental and therefore studies are required to help clarify the usefulness of Oleozon prescription in Alveolitis. Method. An intervention study, of a quasi-experimental cut of case and control type, was carried out, the universe was constituted by all the patients who attended the Emergency service belonging to the Stomatology department of the Juan Manuel Páez Teaching Polyclinic, from December 2018 to November to November 2019. The sample consisted of 52 adult patients randomly distributed where two groups were formed: an experimental group, treated with Oleozon (as the only medication), in the treatment of Alveolitis, and a control group, in which Alvogil and antibiotic oral therapy were used, the variables of age, sex, dry socket, wet socket, cured patient and non-cured patient were specified.

Goal: To evaluate the effectiveness of Oleozon versus Alvogil in the treatment of Alveolitis as a drug cure in patients belonging to the Juan Manuel Páez clinic. Results. The most affected age group is the 35–59-year-old male. Oleozon has good efficacy as a medicinal cure in the treatment of Alveolitis and can be used as an alternative therapy to treat said disease, in which its evolution period in the patient will be shorter and better.

Keywords: alveolitis, oleozon, alvogil, stomatological, juan manuel páez

Volume 7 Issue 2 - 2022

Yuleydis Consuegra Córdova,[1] Annia Delgado Caballero,[2] Graciela Córdova Garcia,[3]

[1]Specialist 1st degree in Orthodontics Professor Instructor Hospital Guillermo Luis Hernández Fernandez Baquero, Cuba
[2]1st degree Specialist in Comprehensive General Stomatology and Maxillofacial Surgery General Teaching Hospital Guillermo Luis Hernández Fernandez Baquero, Moa, Holguin, Cuba
[3]Bachelor of Education MSc. Higher education, Assistant teacher, Moa Medical Affiliate Sciences, Cuba

Correspondence: Graciela Córdova Garcia, Bachelor of Education MSc. Higher education, Assistant teacher, Moa Medical Affiliate Sciences, Cuba, Email gracielachlg@infomed.sld.cu

Received: June 03, 2022 | **Published:** September 26, 2022

Introduction

The oral health of the population is guaranteed by a network of units that make up the stomatological care subsystem, which are: Stomatological Clinics, Departments in Polyclinics and Hospitals (Surgical, Pediatric, and General Clinics) and Services in Schools, Labor Centers and others.[1]

With the introduction of the primary health care model of the family doctor and nurse in the National Health System, comprehensive stomatological care is developed and the stomatology's and the family doctor are linked to a responsible health team with a population delimited in a specific geographical area, which must carry out actions of promotion, prevention, cure and rehabilitation. These actions are integrated into the National Comprehensive Stomatological Care Program. For the execution of these actions, the study and implementation of therapeutic management of stomatological emergencies is necessary.[2,3]

Among them are dental caries, periodontal emergencies, dental trauma, emergencies in pediatric dentistry, temporomandibular dysfunctions as well as complications of oral surgery, among them dental Alveolitis as the most frequent. Dental alveolitis is defined as the most frequent and painful complication after tooth extraction attended by the comprehensive general dentist.

Other authors define it, a postoperative complication defined as an inflammation of the alveolus whose characteristics are clinically identified by the exposed walls, with the presence or absence of a blood clot that dissolves prematurely after removing the tooth.[1,2] Several Authors consider alveolitis as a necrotic state of the alveolar process or bone septa that, in the absence of blood vessels, does not allow the proliferation of capillaries or granulation tissues to organize the blood clot. The clot, by not organizing itself, disintegrates.

It manifests itself with pain that can range from mild to exasperating, it is a reversible and superficially located infection.[4,5] The symptoms are varied and intense, the pain dominates the picture and is described as throbbing, irradiated, of deep location that usually appears 48-72 hours after a dental extraction, in addition, halitosis, absence or disorganization of the clot, lack of repair can be found tissue, in some patients there may be an increase in body temperature and infarcted lymph nodes tributary to the alveolus, once the alveolitis is established it tends to remit in a period of seven to ten days.[5,6]

Although there is currently no specific knowledge about the etiology of the process, it is considered a multifactorial condition. Defining it is difficult, but some factors that increase its frequency are considered, such as: decreased vascular supply of the bone, patients with sclerotic bone, excessive trauma to the edges of the alveolus, the gums and bone crushing, extraction of teeth with acute periodontal or periapical processes, poor oral hygiene, permanence of foreign bodies in the alveolus, radicular remains, cysts and granulomas.[7]

There are authors who give more importance to systemic factors and other authors such as Archer, 10 defend the theory that local agents are the cause of this disease. For treatment, some surgeons use irrigation, local anesthesia, curettage of the alveolus to induce the formation of another clot, local intraveolar cures of antibiotic anesthetic, analgesic or anti-inflammatory substances for pain treatment, which are replaced every 2 to 3 days with a repositioning of the material in the socket, but the possibility of foreign body reaction has made such practices obsolete. In addition, pharmacotherapy with antibiotics, powerful analgesics and antihistamines may be indicated, according to the professional's criteria.[8]

In the world, alveolitis is treated with analgesic drugs (especially those that continue eugenol and glycerin) associated with antibiotics, xylocaine or corticosteroids. Master preparations such as Balsam of Peru and commercial products such as Alveogyl® can also be integrated. Starting in 1978, the World Health Organization (WHO) promoted the development of alternative medicine and natural therapies with proven efficacy in the national health services of each country.[9]

In Cuba, the use of natural medicines and other therapeutic resources that are easy to acquire, at low cost and within everyone's reach is generalized, and Natural and Traditional Medicine (MNT) as an alternative treatment has gained a relevant place in the therapeutics of multiple stomatological affections.[10] In the world there are no reported studies of the treatment of dental alveolitis with Oleozon, in Cuba they are still scarce and in the Holguín province there are no investigations related to this subject.

In the Emergency Department of the "Juan Manuel Páez" Polyclinic there was an increase in patients with dental alveolitis in this period, of every 80 monthly extractions that were performed, about a third of them became dental alveolitis; becoming an oral health problem in the population, where the task of solving it was taken on.

There are controversies in relation to the benefits of using Oleozon in the treatment of dental alveolitis and therefore studies are required to help clarify the usefulness of Oleozon prescription in alveolitis.

For all the above, it motivates to direct the present investigation to solve the following scientific problem. Will the use of Oleozon be as effective as Alvogil in the treatment of dental alveolitis? For this, the objective is followed: Evaluate the effectiveness of Oleozon versus Alvogil in the treatment of alveolitis as a medicinal cure in patients belonging to the Juan Manuel Páez clinic from December 2018 to November 2019.

Method

A quasi-experimental case-control intervention study was carried out to evaluate the effectiveness of Oleozon in the treatment of dental alveolitis as a drug cure in patients belonging to the Stomatology Department of the "Juan Manuel Páez" Polyclinic of Moa municipality, in the period December 2018- November 2019. The study universe consisted of 52 adult patients with a diagnosis of dental alveolitis who attended a consultation and who met the inclusion criteria, which were randomly distributed into two groups depending of the medication applied, being distributed as follows: 26 patients treated with the traditional method using Alvogil plus oral antibiotic therapy (control group) and 26 patients treated with Oleozon (experimental group).

For the inclusion criteria, the patients who attended the stomatological emergency room where they were diagnosed with alveolitis were taken into account, being their first visit with this ailment, and patients who gave their voluntary consent to be included in the investigation. specified the variables of female and male sex, age distributed in groups of 19-34 years, 35-59 and 60 and over, percentage of the presence of wet socket, measured by bleeding socket with abundant exudate and less intense pain. Dry socket, bare socket, without presence of blood clot, with exposed bone walls, intense pain.

Cured patients

Patient who does not present pain and scar tissue is observed non-healed patients: Patient who presents pain and no scar tissue is observed. To fulfill the proposed objective, fundamental moments were taken into account, such as: Collection of preliminary information, Clinical examination and interrogation of each of the patients to be studied, and Collection of results.

Treatment method

Before performing any type of treatment on the patient, the use of local anesthetics and the careful removal of sutures from the extraction site, if any, were taken into account. Classification and extraction instruments were used, in addition to carpule-type anesthesia, a hypodermic syringe and saline solution, sterile swabs, a bottle with Alvogil and another with Oleozon.

The alveolus was generously irrigated with copious amounts of saline to remove all traces of necrotic coagulum and inadequate alveolus content. Once the alveolus had been carefully dried with sterile swabs, the patients in the control group were gently covered with a few wicks of Alvogil and oral antibiotics were prescribed. In the same way and with the same procedure, the experimental group was treated, to whose patients three drops of Oleozon were applied in the alveolus and no oral antibiotic was indicated.

Cures were performed on both groups every 72 hours and as many consultation visits as the case required to assess their evolution.

Evolution criteria

a) Presence or not of pain.

b) Formation or not of scar tissue.

The patient was considered cured when the pain had subsided or almost disappeared, and when the walls of the alveolus were covered by healing tissue.

The patient was considered not cured when the pain persisted, and when the walls of the alveolus were bare or devoid of granulation tissue.

Analysis and discussion of results

In this Table 1 it was possible to confirm that the most affected age group was 35-59 years with 31 patients for 59.6%, this is due to the fact that tooth loss increases at these ages, either because the rate of cavities or periodontal disease.[11] This figure is not really very high due to prevention programs and conservative treatments that avoid reaching the Exodontia. This result coincides with those of Sori Gort and Cruz Guerra and Colbs; in their studies they state that the group of 35-59 years old has dental alveolitis.[12]

The male sex also predominates with 18 patients for 34.6% and 15 for 28.8%, in the experimental and control groups, respectively. Result that does not coincide with some literatures where the female sex predominates.[13] The authors consider that this predominance of the male sex is due to the fact that; The oral hygiene habit of men is not usually the same as that of women, smoking is also present in them, the sanitary culture is less high because they seek less evaluation from the stomatologist while the lesions are more advanced and increase the risk of complications of extraction, there is also a higher incidence of periodontal diseases in men due to their social behavior, and finally, compliance with the indications after dental extraction is usually insufficient.

In Table 2, it is observed as a result that in each group we find the same amount in the literature, some authors state about the prevalence of Alveolitis that no significant differences are found between one type of dental alveolitis and another.[4,5,14]

In this sense, the authors consider that there are not two types of Alveolitis, but rather two stages of a single process where the clot obtained disintegrates until a bone cavity without granulation tissue remains. The result of which could not be compared with other investigations since no studies have been carried out in this regard.

The relationship between Alveolitis and the possible causes of its appearance are reflected in Table 3. It is noteworthy that the factors that had the greatest influence on alveolitis are diabetes mellitus and traumatic extractions, for both study groups. In this regard, we

Citation: Córdova YC, Caballero AD, Garcia GC. Effectiveness of alvogil in the treatment of alveolitis. *Int Phys Med Rehab J.* 2022;7(2):91–94.
DOI: 10.15406/ipmrj.2022.07.00311

consider that in diabetics there is a lower capacity for resistance to infections, they are patients with greater susceptibility and that they delay their healing process since polymorphonuclear chemotaxis and collagen synthesis decrease, resulting in a possible infection of the dental alveolus. In this sense, it was not possible to compare these results with other investigations since no studies have been carried out in this regard.

Table 4 shows the behavior of patients with Alveolitis belonging to the experimental group according to evolution time, where it is verified that after 3 days 17 patients are already cured, with those diagnosed with dry socket being the ones with the best evolution for 42.3%, observing that only 7 afflicted patients complete their total healing after 7 days, so that 24 patients healed in the established time for 92.3%, with significant differences between cured and non-cured patients. Only 2 patients did not heal for 7.6%.

Martinez Abreu M I, Abreu Sardiñas16 in the treatment of moderate simple periodontitis and denture stomatitis with ozonized oil also obtained good results with 77% of patients cured in 30 days.

It is considered that this faster evolution than with conventional treatments is due to its healing, antimicrobial, bactericidal and astringent action. However, it must be reiterated that there is no other treatment than the symptomatic one while the organism recovers from the alveolitis, since etiological treatment does not currently exist two.

Table 5 shows the behavior of patients with dental alveolitis belonging to the Control Group according to the time of evolution where at 3 days 7 patients are already cured and at 7 days 8 completed their healing, as can be seen, the difference is not significant. In the healing time or in the proportion of cured and uncured patients, since 11 patients did not heal in the time studied. In this regard, no studies related to the subject in question were found.

For all these reasons, the authors consider that it is necessary to seek other alternatives for the treatment of this emergency, since the patient remains for several days with pain and discomfort in the oral cavity that limits a good quality of life for him.

Table 6 describes the results obtained in both groups studied according to healing time, demonstrating the action of Oleozon in the treatment of said condition and significant results, since at 3 days 24 patients in the experimental group are cured for 46.2%, when from the control group only 15 patients healed for 28.8%, where pain elimination and rapid healing are noted in patients treated with Oleozon, but not in those who use Alvogil.

Table 1 Distribution of patients according to age groups and sex in both study groups

Groups of ages (dwarves)	Experiment group I N=26				Control group N=26				Total	
	Male		Female		Male		Female			
	No.	%	No.	%	No.	%	No.	%	No.	%
19-34	7	38.9	0	0	5	33.3	3	27.3	15	28.9
35-59	10	55.6	7	87.5	9	60.3	5	45.5	31	59.6
60 years	1	5.50	1	12.5	1	6.67	3	27.2	6	11.5
Total	18	100	8	100	15	100	11	100	52	100

Table 2 Distribution of patients according to type of alveolitis and groups studied

Type of alveolitis	Experiment Group		Control Group	
	No	%	No	%
wet	13	50	13	50
dry	13	50	13	50
Total	26	100	26	100

Table 3 Relationship between Alveolitis and its possible causes of appearance

Group	Amount of carpules	Diabetics	Traumatic extractions	Otros
Experiment	3-Feb	12	38	5
Control	3-Feb	16	21	7
Total		28	59	12

Table 4 Behavior of patients with Alveolitis belonging to the experimental group according to healing time

	Group Experiment N= 26							
Types alveolitis	Cured patients				Uncured patients		Total	
	3 days		7 days					
	No.	%	No	%	No	%	No	%
Alveolitis wet	6	23	5	19.2	2	7.6	13	50
Alveolitis dry	11	42.3	2	7.6	0	0	13	50
Total	17	65.3	7	26.9	2	7.6	26	100

Table 5 Behavior of patients with alveolitis belonging to the control group according to healing time

	Group Control N=26					
Alveolitis groups	Cured patients				Uncured patients	
	3 days		7 days			
	No.	%	No.	%	No	%
dry socket	3	42.9	5	62.5	5	45.5
dry socket	4	57.1	3	37.5	6	54.5
Total	7	100	8	100	11	100

Citation: Córdova YC, Caballero AD, Garcia GC. Effectiveness of alvogil in the treatment of alveolitis. *Int Phys Med Rehab J.* 2022;7(2):91–94. DOI: 10.15406/ipmrj.2022.07.00311

Table 6 Results obtained in the patients of both groups according to healing time

Types alveolitis	Group experiment =26		Control group = 26	
	Cured Patients	Uncured patients	Cured Patients	Uncured patients
	No %	No %	No %	No %
wet	11 45.8	2 7.6	8 53.3	5 45.5
dry	13 54.2	0 0	7 46.7	6 54.5
Total	24 100	2 7.6	15 100	11 100

Regardless of the type of alveolitis, it was found that the patients treated with Oleozon evolved better and in a greater proportion; only 11 patients for a 42.3% did not heal in the established time belonging to the Control Group.

This result coincides with those of Cruz Guerra, Menéndez Cepero and Martinez Jordan in their investigation of the application of ozone therapy in the treatment of alveolitis where 46% of the patients treated were cured with Oleozon.[12]

In the literature, other authors also refer to a good response to treatment with ozone therapy in patients with respiratory syndromes where they observe rapid improvement in them, also in their patients with cardiovascular conditions, they detected an immense improvement and rapid recovery after having undergone surgery.[15-17]

The usefulness of Oleozon in the treatment of alveolitis is demonstrated, revealing its properties of revitalizing the epithelial tissue, the activation of the local microcirculation and the improvement of the cellular metabolism of oxygen. The germicidal action of ozone is based on the formation of toxic molecules such as hydrogen peroxide, and highly toxic free radicals (such as Superoxide), which are especially toxic to anaerobic microorganisms, which lack endogenous enzyme systems capable of breaking down these products and eliminate them from the body, revealing its healing effect, since it is capable of activating enzymatic systems that protect against degenerative processes.

In this work it is shown that Oleozon can be considered as an effective medicine in the treatment of alveolitis, due to its germicidal properties, as well as its tissue oxygenation power that helps and stimulates tissue regeneration. During the investigation, no reactions or adverse effects to Oleozon were reported.

Conclusion

The most affected age group is 35-59 years, and the male sex. There is no predilection regarding the type of Alveolitis. The risk factors that are most frequently found are Diabetes Mellitus and traumatic extractions. Oleozon has good effectiveness as a medicinal cure in the treatment of Alveolitis and can be used as an alternative therapy to treat said disease, in which its evolution period in the patient will be shorter and better.

Acknowledgments

None.

Conflicts of interest

The authors declare having no conflict of interest.

Funding

None.

References

1. *Clavera vázquez T, Application of ozone therapy in the treatment of alveolitis. Cuban Journal of Stomatology*. 1997;34(1):26–34.
2. González García X, Lugo Bencomo L, Figueroa Andino M, et al. Incidence of alveolitis and main associated factors in patients older than 19 years. *Medical Sciences Magazine*. 2017;21(2):11–18.
3. Reyes Martin O, Manresa Malpica L, Fernández Carmenates N. Efficacy of oleozon in the treatment of dental alveolitis. *Cuban Journal of Natural and Traditional Medicine*. 2021;5:e218.
4. Morejón Álvarez F, Pino Malagón E, Morejón Álvarez T. Effectiveness of magnetotherapy in the treatment of alveolitis. *Rev Medical Sciences*. 2011;5(2):87–96.
5. Souto–Román M, Luis–Téllez C, Rosales–Corria E, et al. Application of ozone in dental alveolitis. *Multimed*. 2018;22(1):167–176.
6. Beaver MN. Pain in the tooth extraction wound. *Alveolitis. Dental office*. 2015
7. Beaver MN. Tooth extraction and dry socket. *Colgate*. 2015
8. Tan Suárez Norys, Hidalgo García Carmen Rosa, Tan Suárez Nerys Taymé, et al. Homeopathic treatment vs Alvogyl in dental alveolitis. *AMC*. 2008;12(3).
9. Pan American Health Organization. Washington: © Pan American Health Organization; Participants from 21 countries of the Region propose to increase collaboration with traditional and complementary medicine in the advance towards universal health. 2017.
10. Guerra–Lorenzo Y, Rodríguez–Rodríguez A, Alemán–Hernández E, et al. Dental alveolitis in adult patients at the René Bedia Morales Polyclinic. Boyeros Municipality. *Rev Méd Electron*. 2018;40(6):1–11.
11. Berwick JE, Lessin ME. Effects of a chlorhexidine gluconate oral rinse on the incidence of alveolar osteitis in mandibular third molar surgery. *J Oral Maxillofac Surg*. 1990;48(5):444–448.
12. Cruz Guerra O, Menéndez Cepero S, Martínez Jordán M E, et al. T. Application of ozone therapy in the treatment of alveolitis. *Rev Cubana Estomatol*. 1997;34(1):21–24.
13. Vergara Buenaventura A. Dry socket: a review of the literature. *Spanish Journal of Oral and Maxillofacial Surgery*. 2014;36(4):169–173.
14. Simon E, Matee M. Post–extraction complications seen at a referral dental clinic in Dar Es Salaam, Tanzania. *International Dental Journal*. 2001;51(4):273–276.
15. Martínez Abreu J, Maria Ilzarbe L, Abreu Sardiñas M. Ozone therapy in the treatment of periodontal disease, 10 years of experience in Cuba and Spain. 2018.
16. Larsen PE. Alveolar osteitis after surgical removal of impacted mandibular third molars. Identification of the patient at risk. *Oral Surg Oral Med Oral Pathol*. 1992;73(4):393–397.
17. Souto Román MC, Luis Téllez C, Sánchez Rodríguez R. Application of ozone in dental alveolitis / Application of ozone in dental alveolitis. *Multimed*. 2018;22(1):167–177.
18. Jaafar N, Nor GM. The prevalence of post–extraction complications in an outpatient dental clinic in Kuala Lumpur Malaysia—a retrospective survey. *Singapore Dent J*. 2000;23(1):24–28.