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COMPLICATIONS OF THE OTITIS IN SMALL DOMESTIC ANIMALS AND METHODS OF TREATMENT

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Abstract. *The article presents data on the clinical study of dogs with hanging ears of different breeds and age groups, which were adopted with a hematoma of the ear, with the diagnosis of an otogematoma, which emerged as a complication for untimely diagnosed otitis in dogs and for untimely treatment of patients. The most common causes were ailments of different etiology (60 %), mechanical traumas of the ear (35 %), autoimmune diseases, weakness of blood vessels (5 %). Surgical care was provided 2-3 days after the injury. Treatment was carried out with the help of a special compressor "BUSTER". All animals were divided into 3 groups: 1 control and 2 experimental.*

In the control group, no surgical treatment was performed, only puncture of the otogematoma and removal of the contents with the help of a sterile syringe with the imposition of a pressure bandage - as a result of which healing did not take place, and after 20 days thickening of cartilage was observed. I experimental group: 10 dogs - surgical treatment of otogematoma was performed with the help of compressor «BUSTER» with execution of «S» of similar section and imposition of firmware «P» of such ligature. After 20 days, complete wound healing was observed without cartilage thickening. II experimental group: 10 dogs - surgical treatment of otogematoma with the help of the usual direct incision and the imposition of stitching seams from bandage rollers. After 30 days, wound healing and cartilage thickening were observed.

Thus, the use of a special compress allows you to completely abandon the use of improvised materials and restore the structure of the ear for 15-20 days.

Keywords: *otogematoma, hematoma of the ear, otematoma in dogs, treatment with othematom, surgery of the dog ear hematoma*

Introduction

Treatment of otogematoma in dogs, at first glance, seems to be one of the simplest surgical operations. The procedure itself takes a small amount of time and does not require long-term practical skills. But the main problem is the frequent recurrence of this pathology 10-30 days after removal of the sutures. Treatment of otogematoma is

a simple but quite specific procedure with the obligatory adherence to certain technique of suturing and making the incision of the required length (Kuwuhara, 2006).

Analysis of recent research and publications

To date, many methods of surgical treatment of otogematom in dogs are presented in veterinary medicine of Ukraine (Tkachenko et al., 2017; Kulida, 2016; Sukhonos et al., 2018). But a considerable number of them lead to frequent recurrences of this pathology (Joyce, 2000), and in most cases require the use of improper materials (rollers of bandage, cut off parts of infusion systems, buttons), which also require additional disinfection (Kuwuhara, 2006; Robert, 2004)

Purpose. Study of the effectiveness of the use of the "BUSTER" compress in the surgical treatment of dogs with otematoms.

Materials and methods of research

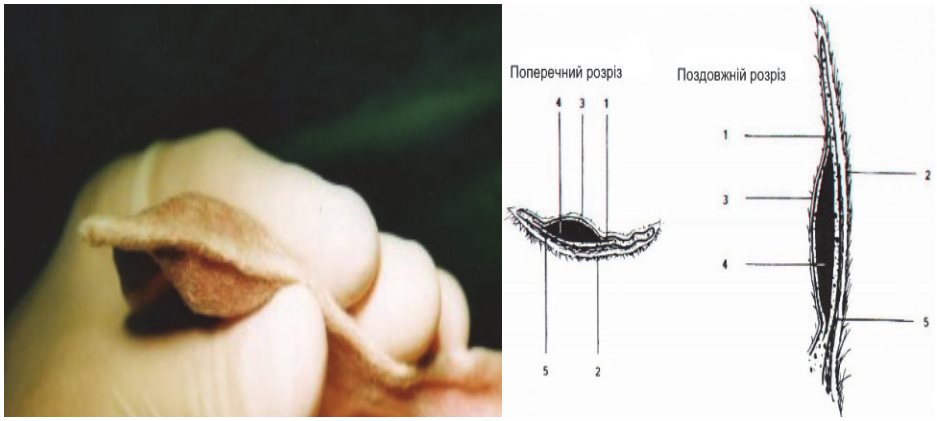
The researches were carried out for 2 years on the basis of the veterinary-surgical center "CHANCE", Kyiv. Volzka, 63. Practical skills in the implementation of the method were acquired at the French veterinary clinic "Clinique Vétérinaire Blanc-Chauveau-Dubreil - 306 avenue de la Liberté, 86180 Buxerolles". diagnosed with an otogematoma that has emerged as a complication of otitis media.

Results of the study and their discussion

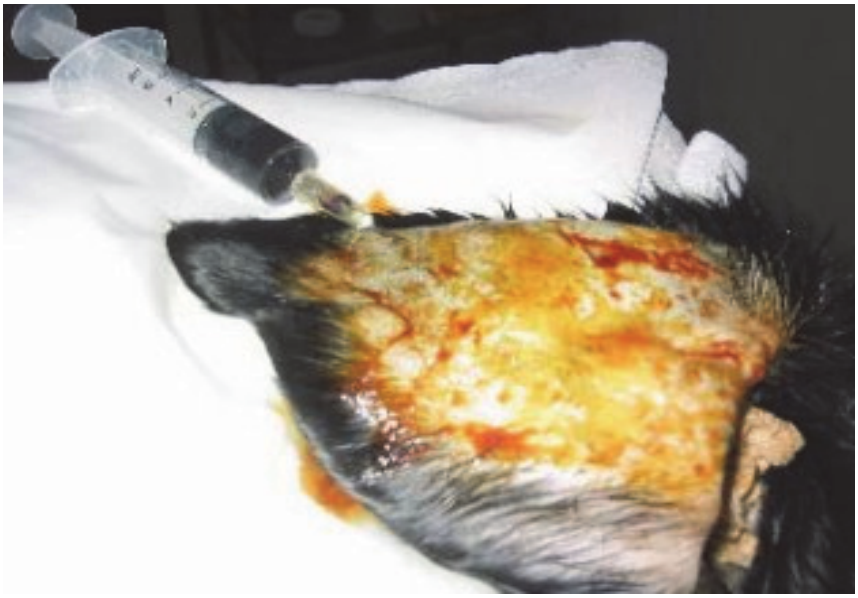
To confirm the diagnosis used such a method as puncture otogematoma (shown in image 2), after puncture in the syringe was observed - dark red blood, sometimes with clots. Fixation of the animal was carried out on the table in a lateral position on the opposite side relative to the damaged ear. A roller was placed under the ear or used by an assistant to hold the ear in a certain position.

All procedures were performed under general anesthesia, ranging from preparation of the animal to the imposition and flashing of the compress including.

In order to remove the accumulated blood, an "S" - like incision was performed - a special type of incision allows to increase the drainage area and is advantageous because it does not cause



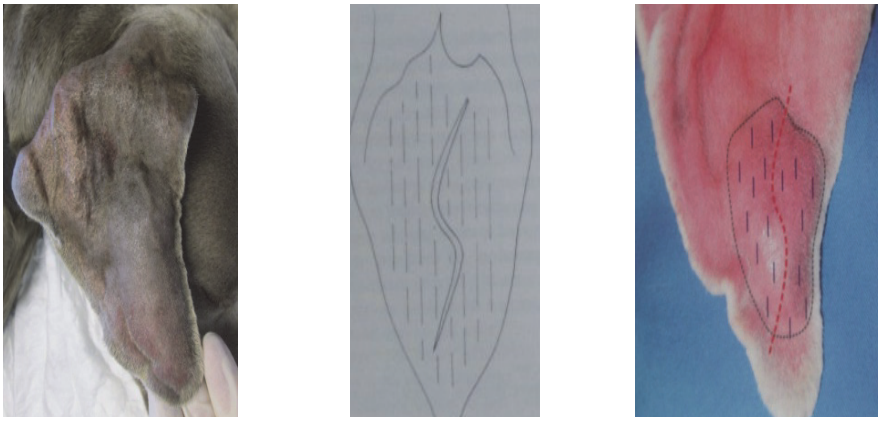
Im. 1. Schematic diagram of a transverse and longitudinal section of the ear with an otogematoma



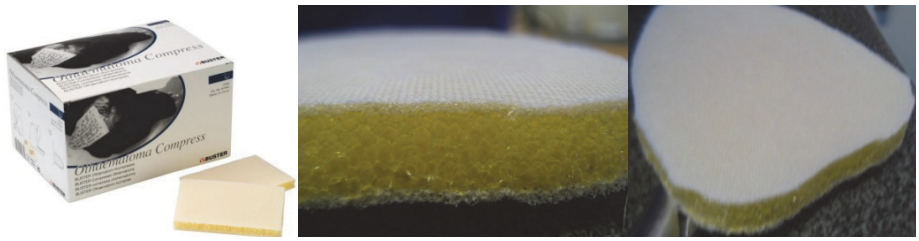
Im. 2. Puncture of otogematoma in dogs

longitudinal tightening of the tissues at the healing site. As a result, the final aesthetic result is most successful in most cases (Stephenson, 1991).

For the operation used cranio-medial access, the incision line was started, departing 2-3 cm from the base of the ear, the length of the incision is 40-50 % relative to the length of the ear. In large breeds of dogs 4-5 cm, in small breeds 2-3 cm. Preparation of the operative field was performed by shaking the wool on both sides of the ear with a Moser machine with nozzle 1 \ 20 mm, decontamination by 3-fold treatment with an alcohol solution and a solution of betadine. The operation was performed in sterile latex gloves. After a skin incision and subcu-



Im. 3. Special "S" -like section (black dashed line - border of the otematoma, red - line of the cut)



Im. 4. Compress in section of a gel-like grid

taneous tissue was cut, dark red blood with clots flowed through the opening. A prerequisite is a thorough cleaning of the blood clot pocket and the transudate with a bandage sterile swab. The incision should remain open throughout the healing period of the otogematoma. It is even possible to further expand the opening by 0.2-0.5 mm wide to prevent the wound from being closed until the time of healing.Далі використовували стерильний компрес для лікування отогематом «BUSTER» фірми «KRUSSE».

This is a special sponge that has a two-sided surface. One of which is soft and highly absorbent, superimposed on the medial side of the ear, thus providing absorption and conversion into blood gel, fluid (exudate, transudate) flowing from the incision, the other side is sufficiently strong and rigid to provide reliable fixing the thread in a certain position without the possibility of cutting through the compress or the ear itself. Photo of the compression section is presented in Image 4.

Also quite big plus is the ability to trim the compress to the size of the ear. The material is quite flexible and easily cut with ordinary surgical scissors. Standard size 12 by 8 cm, each compress in sterile packaging. The compress was applied to the entire length of the otogematoma and was sutured through "P"-like sutures. Used non-absorbable suture material. There were 2 types of seams along the section along the contour, and chaotic in any direction, but also on the contour deviating from the incision of 5 - 10 mm, the technique is presented in Figure 5. Performed by student Starovyt Kateryna under the leadership of Tkachenko Sergii.

After completing the suture, the ear was treated with Ali spray on both sides. For dogs, be sure to wear a protective coat for the entire period of wound healing, before removing the sutures for 10-14 days for an additional few days after removing the sutures. After surgery, prescribed a course of antibiotic therapy: 4x Amoxicel L.A. A 15 % or 10 day course of tableted Sinulox 2 g per day.If

Im. 5. The scheme of cleansing of the clots and the imposition of "P" such seams

Im. 6. Dog ear after completion of suturing and after removal of sutures

the otogematoma was of a secondary nature, treatment of the underlying disease - otitis, eczema, parasitic invasion, was required to avoid irritation and itching at the site of the lesion and to prevent recurrence when compression was known.

Image 6 shows the dog's ear 5 minutes after surgery and the last photo 14 days after the sutures (medial side).

The sutures were removed after 10-14 days without the use of any anesthesia. The ear was covered with wool and had a straight flat shape. Observations for the dog were conducted within 1 month after surgery. It evaluated the overall clinical parameters, size, tenderness or change in shape of the ear, its mobility in the capture of sounds.For 2 years out of 200 dogs admitted in the veterinary-surgical center "CHANCE" with ear injuries, the diagnosis of "otematoma" was established in 30 dogs, which is 15 % of the total number. The reasons for otogemat were different etiology – 86 % (26 dogs), mechanical ear injuries – 10 % (3 dogs), other factors – 4 % (1 dog).

In the study, all dogs (breeds of dogs with hanging ears) were divided into 3 groups. The conditions of keeping, diet, and walking for all animals were the same. Dogs age 3-5 years. The results of the studies are presented in table 1.

Control group: 10 dogs did not undergo surgical treatment, only puncture was performed to remove the exudate and apply a pressure bandage to the patch without applying a piercing ligature.

I experimental group: 10 dogs - surgical treatment of otogematoma was performed with the help of compressor «BUSTER» with execution of «S» of similar section and imposition of firmware «P» of such ligature.

II experimental group: 10 dogs - surgical treatment of otogematoma with the help of the usual direct incision and the imposition of stitching seams from bandage rollers.

1. Results of the conducted researches

Indexes	Groups		
	Control *N = 10;* m	I experimental *N = 10;* Mm	IIexperimental *N = 10;* m
Treatment results (number of days)	The wound remained unchanged. The otogematoma was recovered every 2 days. Observed thickening of cartilage tissue after 30 days	After 20 days complete wound healing.	After 30 days complete wound healing. Slight thickening of cartilage.

In all three groups, 4 times at one time intervals, antibiotic therapy with Amoxicel 15 % L.A.

Conclusions and Prospects

Analyzing the results of treatment of dogs with otogematoma, which appeared as a complication of otitis, we can conclude that the use of "BUSTER" compress completely eliminates the use of improvised materials, significantly saves time for surgery and is an effective method of otogemat treatment with complete restoration of blood supply aesthetic shape of the ear.

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Анотація. *В статті представлені дані щодо клінічного дослідження собак з висячими вухами різних порід та вікових груп, які були прийняті з гематомою вуха, з діагнозом – отогематома, що виникла як ускладнення за невчасно діагностованих отитів у собак та за несвоєчасно проведеного лікування хворих.*

Найбільш частою причиною були отити різної етіології (60 %), механічні травми вуха (35 %), аутоімунні захворювання, слабкість кров'яних судин (5 %). Хірургічну допомогу надавали на 2-3 день після травми. Лікування здійснювали за допомогою спеціального компресу «BUSTER». Всі тварини були розділені на 3 груп: 1 контрольна та 2 дослідні.

В контрольній групі хірургічного лікування не проводилось, лише здійснювалась пункція отогематоми та видалення вмісту за допомогою стерильного шприца з накладанням тиснучої пов'язки, в результаті чого загоєння не відбувалось, а через 20 днів спостерігалось потовщення хрящової тканини. І дослідна група: 10 собак – проводилось хірургічне лікування отогематоми за допомогою компресу «BUSTER» з виконанням S-подібного розрізу та накладанням прошивної П-подібної лігатури. Через 20 днів спостерігали повне загоєння рани без потовщення хрящової тканини. ІІ дослідна група: 10 собак – проводилось хірургічне лікування отогематоми за допомогою звичайного прямого розрізу та накладання прошивних швів з бинтових валиків. Через 30 днів спостерігали загоєння рани та потовщення хрящової тканини.

Таким чином, застосування спеціального компресу дає можливість повністю відмовитись від використання підручних матеріалів та відновити структуру вуха на 15-20 день.

Ключові слова: *отогематома, гематома вуха, отематоми у собак, лікування отематом, хірургія гематом вуха собак*

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