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TREATMENT OF WOUNDS IN SHEEP

Author: Assistant ***Bekmuratov K.R.***

Samarkand State University of Veterinary Medicine, Animal Husbandry and Biotechnology, Nukus Branch

Abstract: *This article presents information based on a literature review on modern methods of treating wounds in sheep, clinical diagnosis, and the causative factors of wounds.*

Keywords: *Wound, injury, organ, modern, tissue, sheep, damage, surgery.*

Introduction:

A wound is a mechanical injury to body tissues (skin, mucous membranes, often muscles, nerves, large vessels, bones, joints, internal organs, and body cavities) resulting in a breach of their integrity. The main signs of a wound include tissue pain, bleeding, and exposure.

Purpose of the Study:

The aim of this research is to develop modern methods for treating wounds in sheep and to apply these methods in practice to reduce the healing time of wounds.

Research Results:

Surgical diseases, including wounds, are widespread among animals and cause significant economic losses. These losses are due to prolonged treatment, extensive use of medications, and withdrawal of animals from productive work. Contributions to wound treatment have been significant by surgical scientists of

Eastern and Greek states. Over the centuries, treatment methods have undergone considerable changes, especially with the emergence of modern drugs that have proven effective in wound treatment [4]. Recently, substances protecting wound surfaces have been developed, distinguished by their physical properties, chemical composition, and the variety of additives used [1].

K.I. Shakalov describes the effects of wounds on animal organisms as follows:

1. Acute injuries pose a severe threat to animal life, damaging organs and tissues and causing bleeding.
2. Closed tissue injuries may lead to necrosis and absorption of toxic substances, causing poisoning.
3. Strong mechanical impacts may cause rupture of internal organs such as liver, stomach, intestines, and bladder.
4. Microbial invasion in damaged tissues can result in phlegmon, necrobacteriosis, actinomycosis, and others.
5. Neurological changes such as paralysis and atrophy may develop due to injury in animals [3].

Causative Factors:

According to K.I. Shakalov (1981), many diseases in sheep result from damage to organs and tissues. The extent of tissue and organ damage depends on the degree and strength of mechanical impact. The heavier and tougher the object, the more severe changes occur in soft and hard tissues [3].

Clinical Signs:

N.P. Pirogov classifies the clinical stages of wound healing into three phases: 1) Swelling, 2) Wound cleansing (1–14 days), 3) Formation of granulation tissue [6].

Clinically, wounds in animals manifest as tissue decay, necrosis, serous-purulent and dirty exudate discharge, fever, reduced appetite, and digestive disorders. According to M.V. Plakhotin, the main clinical signs include pain, bleeding, wound exposure, and impaired function [5].

Diagnosis:

Various methods have been developed to diagnose wounds, identify healing stages, and determine whether healing is primary or secondary. These methods include planimetric, cytological, biochemical, electro-thermometry, and immunological techniques. The planimetric method is used to determine healing duration by measuring granulation tissue growth, epithelialization, scar formation, and final closure of the wound cavity.

N.F. Kamayev divides the wound process into the following phases based on cytological and pathological changes:

1. Initial phase (up to 12 hours) – appearance of first signs of inflammation.
2. Degenerative phase – inflammation phase.
3. Regenerative phase – includes: a) cleansing of necrotic tissue, b) formation of granulation tissue, c) improvement of wound condition and epidermal restoration [6].

Assessment of healing progression is crucial. M.V. Plakhotin notes that the clinical status of the animal is assessed first, followed by wound examination [5].

Treatment:

Modern approaches to wound treatment offer various methods. The understanding of wound healing continually evolves alongside medical and technological advancements. Despite this, traditional treatment methods are still widely used

alongside modern ones, sometimes hindering the adoption of the latest advances. Objective evaluation methods for treatment effectiveness remain underdeveloped.

Literature suggests various treatments including modern drugs such as Yoddiferin, Etony gel, Mefenat ointment, Homeonat, and Antigomotoxin preparations. These accelerate wound cleansing from necrotic tissue, promote healthy tissue growth, and prevent infection.

Surgical treatment of fresh wounds was first proposed by Charukovsky and later by Fridrich. They suggested that within the first 6 hours post-injury, microorganisms remain on the wound surface and do not penetrate lymphatic pathways, forming a theoretical basis for wound suturing. B.V. Ognev experimentally demonstrated microbial presence in regional lymph nodes 30 minutes after injury [2]. In 1896, N. Preobrazhensky laid the foundation for physical antiseptics, describing the hygroscopic properties of dressings that absorb and promote discharge of pus [2].

M.V. Plakhotin describes two healing phases: hydration and dehydration. Wounds in sheep cleanse by purulent enzymatic action, where dead tissues undergo enzymatic digestion and liquefy to exit the wound cavity [5].

B.M. Olikov recommends reducing the acidic reaction and osmotic pressure of the wound surface through the local application of hypertonic and alkaline solutions. For wound drainage, Olikov developed a fluid composed of: Sodium carbonate 4.0 g; Distilled water 80 ml; 5% Iodine solution 20 ml; Magnesium sulfate 80.0 g; Glycerin 280.0 g; Infusion of Digqoya leaves 3.0–6.0 g [2].

Wounds cause severe pain in sheep and reduce their working capacity. If tissues are bruised, cold therapy with ice or snow is recommended for the first two days. After cold treatment, warm procedures such as compresses, pain-relieving

ointments, and massage help reduce swelling. In case of infection and purulent inflammation, rinsing with Rivanol or potassium permanganate solutions is recommended. Local scientists have used Tetravqoy for wound treatment, noting that its vitamins A, D, and E boost the animal's protective adaptive response, accelerating healing.

Conclusion:

1. Wound treatment in sheep should be comprehensive.
2. Early and correct treatment reduces healing time and restores working capacity.
3. Treatment should consider the cause of the wound, first aid given, and the injured organ.

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