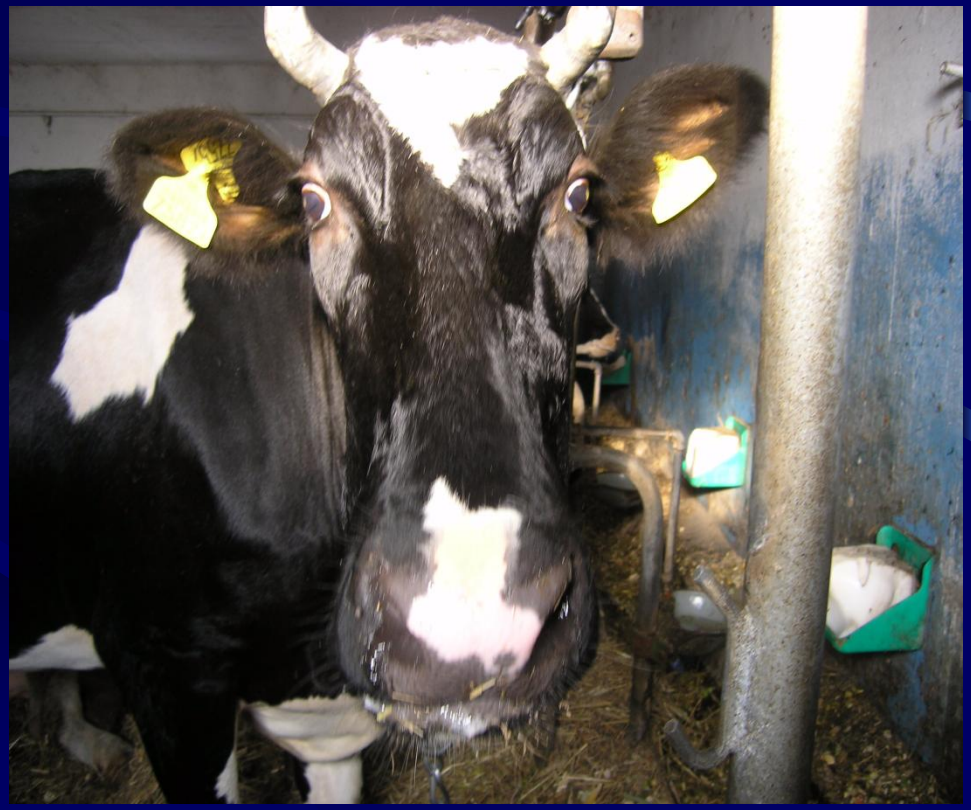
Prevention and treatment of inflammatory states of mammary gland in cows



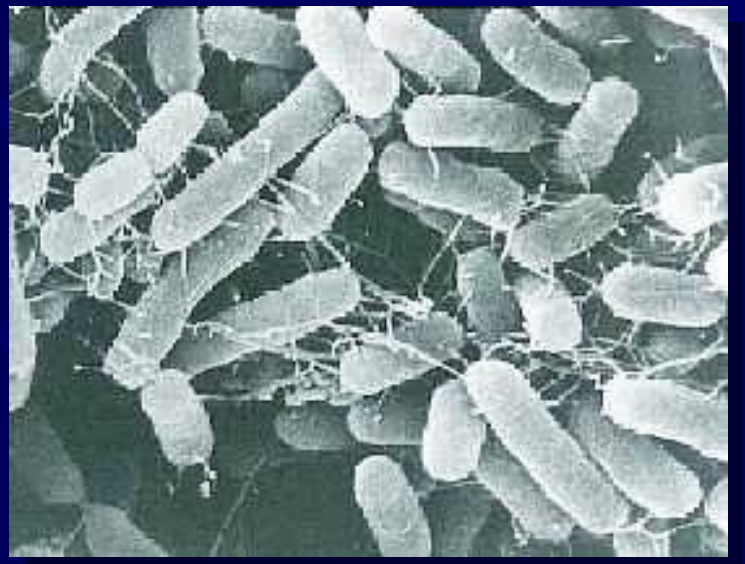
Mastitis or mammary gland inflammation in cows is an important economic problem as well as sanitary and epidemiological

Mammary gland inflammation is a disease, it can also be a defensive reaction to microbial infections, mechanical damage, physical damage, as well as irritation with chemicals. This reaction aims to eliminate the microorganisms responsible for infection, neutralize their toxins, remove degenerated cells, as well as tissues, participate in the repair of damaged secretory tissue and restore the normal function of the gland.

There are many factors that cause this condition, however, the most common etiological factor are microbes.

Etiological factors that cause bacterial infection include:

Streptococcus agalactiae,
Streptococcus disgalactiae,
Streptococcus uberis,
Staphylococcus aureus,
E.coli,
Klebsiella.



Factors affecting yield milk

- ✓ racial features,
- ✓ genetic predispositions,
- ✓ way of feeding,
- ✓ type of livestock rooms,
- ✓ zoohygienic conditions,
- ✓ health.

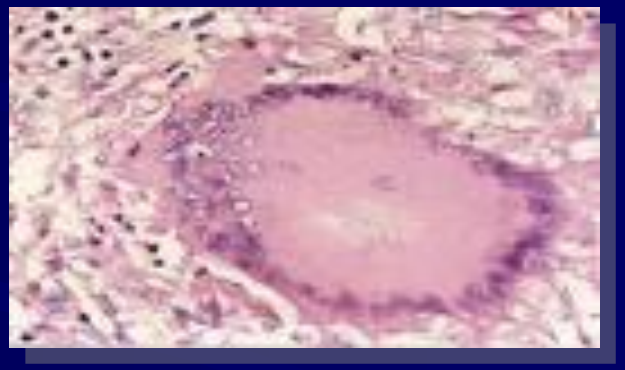
Economic losses associated with the occurrence of mastitis in cows rely on:

- ✓ Loss or reduction of milk production to 28%,
- ✓ Lowering fat content in milk from 7.5 to 2.9%,

lactose from 4.7% to 0.8%, casein from 2.5% to 1.2%, at concurrent growth of chlorides, non-protein-based protein, toxins and products of bacterial.

- ✓ Shortening the period of use of dairy cattle
- ✓ Limiting the consumption value of milk.
- ✓ High costs of treatment of mammary infections.

Inflammation of the udder depends on the location, degree and extent of tissue damage divided into:

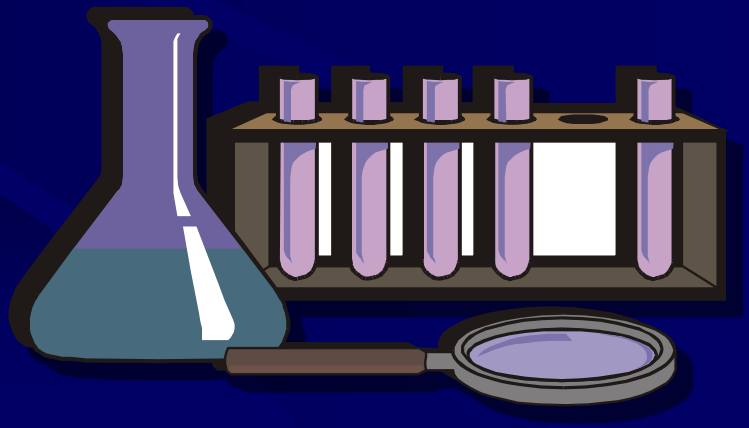


- ✓ (*mastitis catarrhalis*)
- ✓ (*mastitis parenchymatosa*)

- ✓ (*mastitis interstitialis*)

Diagnosing inflammation of the mammary gland

- For the routine testing of milk for the presence of an increased number of cells, the Californian reaction called the Field Cellular Reaction (TOK) is used in Poland. It consists in the reaction of deoxyribonucleic acid (DNA) of cell nuclei with the surface-active substance alkylaryl sulphate, which is part of the reagent called Mastirapid



The goal of treatment is to remove the pathogenic agent

- Decrease in the number of somatic cells <400 thousand / ml
- Lowering the level of sodium, chloride, catalase activity and other parameters (LDH, lysozyme)
- Increase in lactose

The method of treatment depends on:

- Type of irregularity
- The degree of severity of the disease process
- Infection factor
- The results of the antibioticogram
- The lactation phase

in addition, account should be taken of:

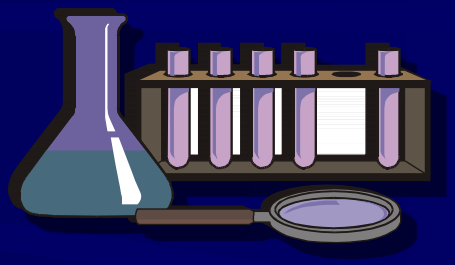
- Age
- Degree of depletion
- Current clinical condition
- Frequency of relapses
- Costs of possible therapy

Means used in therapy

- antibiotics
- sulfonamides
- Acridine preparations
- Corticosteroids
- biostimulators
- vitamins
- enzymes

Types of therapy used

- Local therapy - intramammary
- Combination therapy (combined)
- Supportive therapy



Intramammary therapy

* As the only method of therapy can be used in the absence of general symptoms
* Sub-clinical mastitis
* Chronic clinical inflammation
* Sometimes mild inflammation
* In disorders of secretion

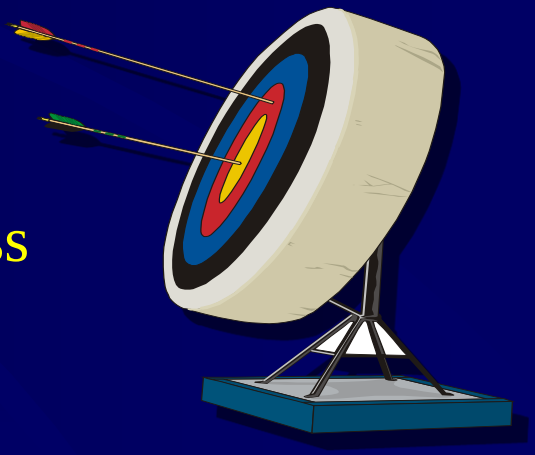
The therapeutic effect depends on:

- The right choice of medicine
- Doses of the drug
- Frequencies of use
- The type of solvent or suspending agent
- The cow's milking height
- Resistance of the local and general animal

Mastitis therapies can be divided into:

- Therapy during lactation

  and
- Therapies during the period of dryness



➢ Drugs used during lactation

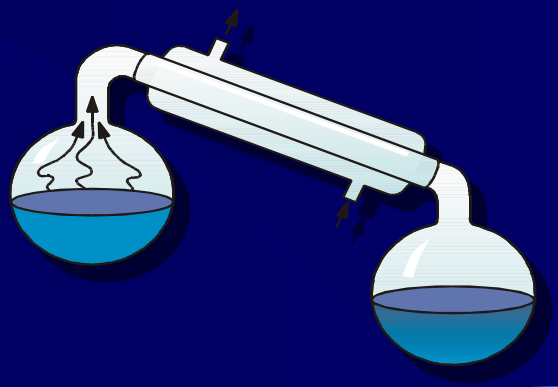
- They must be absorbed quickly
- Keep briefly in glandular tissue
- Rapid action
- They contain liquid or semi-liquid substrates

➢ Drugs used during the dry period

- Contain substrates that release the drug slowly
- Long persistence in glandular tissue (21-28 days)
  (stearate content of the substrate)
- In addition, they have a protective effect.

Treatment of mastitis during lactation

- When therapy can not be postponed until the dry period
- We give the drug every 12-24 h for a period of 2-5 days
- The effectiveness depends on the time of starting treatment and the selection of the right drug
- Disadvantages include the necessity of repeated applications and economic losses resulting from the grace period



Elements that support mastitis therapy

- Improvement of zoohygienic conditions
- Elimination of metabolic disorders (ketosis, acidosis)
- Supplementation vit.A, E, Se
- Raising the level of local immunity

Treatment of mastitis

- **antibiotics**
  - **5-7 days**
  - **generally / locally**
- **warm wraps**
- **Non-steroidal anti-inflammatory drugs**
- **immunostimulants**
- **supportive medicines:**
- **diuretics, cooling agents**

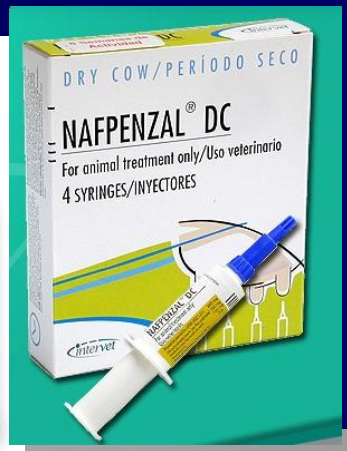
The intramammary preparations intended for the control and prevention of inflammation in cows

Preparations used during lactation

- Cloxa-coli
- Lactoclox
- Linkocin Forte
- Masticef
- Mastijet Forte
- Mastisan MC
- Multimastit
- Nafpenzal MC
- Syntarpen 500mg
- Synulox

Preparations used during the dry period

- Albadry Plus
- Bovaclox
- Cloxamed TS
- Nafpenzal DC
- Neodry
- Orbenin DC
- Syntarpen prolongatum
- Mastisan DC



Prescriptions

Ointment (with camphor and iodine)

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University of Life Sciences

~~VET~~
VET Withdrawal time

Nowak Jan., living Motycz 34
cow ♀ pcb 9 years

Rp.

Camphorae		10,0
Iodi		5,0
Kalii iodidi		
Saponis kalini	aa	10,0
Vaselini flavi		50,0

M.f. ung.
D.S. ointment
Withdrawal time: edible tissues 3 days; milk 3 days

Lublin 21.10.2012 r.

signature of the veterinarian

Ointment for warts

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~~VET~~
VET Withdrawal time

Nowak Jan, living Motycz 135
cow ♀ pcb 6 years

Rp.
Podophilini 0,6
Vaselini albi ad 10,0
M.f. ung.
D.S. ointment
Withdrawal time: edible tissues 3 days; milk 3 days

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A solution used for skin changes

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~~VET~~
VET Withdrawal time

Nowak Jan, living Motycz 135
cow ♀ pcb 6 years

Rp.

Hydrocortisoni 0,5
Resorcini 2,0
Detreomycini 2,0
Spir.Vini 70^0 ad 100,0
M.f. sol.
D.S. solution
Withdrawal time : edible tissues 7 days; milk 5 days

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THANK YOU FOR YOUR ATTENTION