

## Summary

The present study was carried out on 3540 animals of different species (cows, sheep, goats & donkeys). These animals were divided into two categories:

I- The first category included 3508 animals (965 cows, 935 sheep, 460 goats and 1148 donkeys).

The clinical examination revealed that only 93 cows and 14 sheep were suffering from claw affections, while clinical examination of donkeys revealed that 43 donkeys showed signs of septic hoof affections.

The incidence of claw affections were 9.6% in cattle, 1.5% in sheep and 3.74% in donkeys.

In cattle, it was noticed that the incidence of claw affections of the hind limbs represented 86.02% where as the fore limbs represented 13.98%.

The most common affections noticed in cattle were digital dermatitis (33.3%), interdigital dermatitis (32.2%), interdigital necrobacillosis (19.4%) and sole ulcer (15.1%).

In sheep, all cases detected in sheep were related to hind limbs, which mainly showed the signs of foot rot scald.

The claw affections of goat either fore or hind limbs were not recorded in the present study.

In donkeys, the incidence of hoof affections were 3.74%, represented 72.1% in fore limb, while hind limb represented 27.9%.

The septic hoof affections, which noticed in the present study, were septic pododermatitis (39.53%), hoof corn (55.81%) and thrush (4.66%).

The bacteriological examination of the bacterial samples collected from clinical cases of claw and hoof affections revealed that 172 anaerobic bacterial isolates and 164 aerobic bacterial isolates were identified.

The most frequently anaerobic bacterial species isolated were *Fusobacterium necrophorum* (64.67%) followed by *Bacteroid nodosus* (22.7%), *Peptostreptococcus anerobius* (18.67%) and *Clostridium spp.* (8.66%).

*Corynebacterium pyogenes* was the most frequently isolated aerobic strain (62.67%) followed by *Staphylococcus spp.* (35.34%) and *Streptococcus pyogenes* (11.4%).

Antimicrobial drug sensitivity of the anaerobic and aerobic bacterial isolates revealed that all strains were highly sensitive to the actions of Nalidexic acid and Ciprofloxacin followed by Streptomycin. Complete resistance of all isolates against both Ampicillin and Tetracycline.

The minimum inhibitory concentration of the used medicinal plants was determined in vitro. It was found that the lowest concentration inhibited growth of the tested organisms of *Thymus vulgars*, *Matricaria chamomilla* and *Origanium vulgare* were 10%, 15% and 15% respectively.

**II-** The second category (medicinal plants treatment group).

The medicinal plants treatment was conducted in a 20 lactating dairy cows with active naturally occurring lesions (digital dermatitis and interdigital necrobacillosis) were identified and randomly assigned to four groups, 5 cows of each (3 cows with digital dermatitis and 2 cows with interdigital necrobacillosis).

On day 0, prior to treatment, all cows were evaluated, pain, lameness and lesion score. All cows were maintained under the same management and housing condition during the study.

**Group (1):**

Treated by honey as it is.

**Group (2):**

Treated by (10%) lotion and ointment of *Thymus vulgaris*.

**Group (3):**

Treated by (15%) lotion and ointment of *Matricaria chamomilla*.

**Group (4):**

Treated by (15%) lotion and ointment of *Origanum vulgare*.

The assessment of topical application of these treatments on the healing of claw lesions was based on clinical examination (pain score, lameness degree and lesion scores). Efficacy was assessed by comparing the foot scores before and after treatment.

Also the study include 12 donkeys showed septic hoof affections (hoof corn and septic pododermatitis) which were divided into 4 groups (each of 3 animals).

**Group (1):**

Treated by honey as it is.

**Group (2):**

Treated by lotion (10%) and powder of *Thymus vulgaris*.

**Group (3):**

Treated by lotion (15%) and powder of *Matricaria chamomilla*.

**Group (4):**

Treated by lotion (15%) and powder of *Origanum vulgare*.

The treatment was applied till dryness of the exudates and recovery took place.

It was noticed that the best results were obtained with the use of honey and *Thymus vulgaris* followed by *Matricaria chamomilla* and lastly the group treated by *Origanum vulgare*.

It is concluded that prevention of development of foot lesions depends on good husbandry. Feet of adult cattle should be inspected twice yearly, and foot trimming should be carried out to correct over growth. Treatment of foot lesions is an expensive and laborious task, where in many situations, farms lack appropriate restraint facilities for examining lame cows. Foot care under these circumstances becomes an arduous, if not dangerous task.

Prompt diagnosis of foot rot and treatment can reduce the severity of lesions and improves weight gains in cattle, resulting in potential economic gains.

Topical treatment with an antibacterial agents is more effective, less expensive and is more considered a practical methods.

The major disadvantages of using antibiotic for treatment of claw lesions regardless methods of application, is the potential for antibiotic residues in milk or meat. There for non antibiotic options for treatment of this disease are desired.

Because antibiotic resistant bacteria have become a widespread clinical problem, a renaissance in honey and medicinal plants uses has occurred. Moreover, honey and medicinal plants are becoming increasingly popular as naturally occurring antimicrobial agents.

In recent years there has been an increasing interest in the use of natural substances, and some questions concerning the safety of synthetic compound have encouraged more detailed studies of plant resources.

The obtained results proved that the use of honey and medicinal plants gave best results in the treatment of septic affections of claws and hoof. Besides they are natural in origin, low in cost, available anywhere, easily to be prepared and applied, has no side effects, to ovoid the bacterial resistance and the antibiotic residue which may remain in the animal meat and milk.