Investigations Regarding the Incidence of Scabies at Young Cattle

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Abstract
Clinical and laboratory investigations on the incidence and intensity of sarcoptic mange in a herd of 156 young cattle and histo-pathological picture of changes in the skin, highlights the following: anatomical-clinical examination performed revealed that 47.4% of young cattle have examined clinical anatomical changes visible (crusts, depilation, itching and scratching), with significant differences related to age and type of anatomy-clinical manifestation. The incidence of sarcoptic mange by microscopic examination, is ranging from 34.75 (category 0 - 6 months) 38.0% (category 6-12 months) with an average of 36.5%. The intensity of parasitism with Sarcoptes scabiei, var. bovis is correlated with the age. Thus the 0-6 months category predominate weak infestation (44.0%), while the 6-12 months category predominate large and medium infestation (40.6%). Histo-pathologically, the sections made in the skin and colored shows the presence of parasites in exfoliate epithelium with a low linfo granulocytes infiltration.

Keywords: depilation, incidence, purities, scabies

1. Introduction
Mange in animals, also known as scabies, are parasites disease localized in skin evolving at humans and animals with dermatitis, purities crusted, accompanied by scratching and depilation [1, 2]. These cutaneous acariosis produce economic losses due to high morbidity, failure to yield to fattening or growth of youth cattle and a significant risk for human disease [3].

In this paper we propose a clinical and diagnostic possibility in young cattle following the scabies incidence in this population of cattle, such as clinical signs in animals suspected of disease and parasitism intensity with Sarcoptes scabiei var. bovis.

2. Materials and methods
Investigations on the incidence and intensity of scabies in young cattle correlated with the clinical type were made in November 2011 to a private unit in Gherla Cluj area, specialized in increasing young cattle for fattening animals in a herd of 156 male and female (72 category 0-6 months and 6-12 months category 84). Young cattle is increased in loose housing, the system solved the feeding with alley, concrete spaces for rest and scrapers for manure disposal.

It has been made a clinical anatomic study of the entire young cattle following the effective presence of skin lesions, nature and type of clinical manifestations.

From animals suspected of scabies were harvested crusted by scraping the skin areas, stubbly, making microscopic preparations between the blades and blades with added lactofenol [4, 5]. Microscopic preparations were examined under a
microscope with 10X objective and the intensity of parasitism was determined by counting the total number of mange in the preparation, holding that:

- Massive infestation: 5+ mange / preparation
- Average infestation: 2-5 mange / preparation
- Low infestation: 1-2 mange / preparation

From a young cattle with generalized dermatitis crusted, skin tissue were taken by biopsy, in which sections were performed by different techniques histo pathological colored staining (May-Grunwald-Giemsa and Tricrom-Masson) to highlight the histopathology picture of the lesions [6, 7].

3. Results and discussion

Clinical investigations conducted on livestock in the study (156 young cattle), shows a different anatomical and clinical picture, correlated with the age, presented in Table 1. The data presented show a different incidence of anatomic and clinical manifestations of livestock in the study, which is correlated with age group, 43.0% and 51.1% category 0-6 months 6-12 months category.

In the Figure 1 is presented the variation in anatomical clinical picture suspicious of sarcoptic mange of young cattle by age. The incidence of sarcoptic mange in young cattle, by microscopic examination by age is presented in Table 2. The incidence of sarcoptic mange in young cattle from the data joined, show different values, varying from 34.7% to 38.0% category 0-6 months, 6-12 months category, with an average of 36.5%. It should be noted that there is no absolute correlation between the value of clinical and anatomical examination of microscopic differences in the data crusted skin lesions with depilation occurring in other pathological conditions (eg dermatophytosis), but lacking the itching and scratching [8].

Variation extensively sarcoptic mange in young cattle is shown in the chart 2 opposite.

Table 1. Variation of anatomical and clinical picture of mange scabies in young cattle by age

<table>
<thead>
<tr>
<th>Age</th>
<th>Livestock</th>
<th>Type of clinical manifestation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>With clinical manifestation</td>
</tr>
<tr>
<td>0-6 months</td>
<td>72 heads</td>
<td>% heads % heads % heads % heads % heads % heads % heads</td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>43.0</td>
</tr>
<tr>
<td>6-12 months</td>
<td>84</td>
<td>43</td>
</tr>
<tr>
<td>Total</td>
<td>156</td>
<td>74</td>
</tr>
</tbody>
</table>

Figure 1. Variation of anatomical clinical picture at young cattle
Table 2. Extensively of sarcoptic mange in young cattle by age

<table>
<thead>
<tr>
<th>Category</th>
<th>Livestock</th>
<th>From witch:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pozitive</td>
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<tr>
<td>0-6 months</td>
<td>72</td>
<td>25</td>
</tr>
<tr>
<td>6-12 months</td>
<td>84</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>156</td>
<td>57</td>
</tr>
</tbody>
</table>

Figure 2. Change in incidence of scabies in young cattle

Parasitism intensity with Sarcoptes scabiei, var. bovis of the young cattle is presented in the Table 3. From the analysis of data presented in the table it is shown that there is a difference in the intensity of parasitism in conjunction with category. This way at 0-6 months category predominate low infestation (44.0%) while at the 6-12 month category are predominantly massive and medium infestation (40.6%).

Parasitism intensity with Sarcoptes scabiei var. bovis by age is shown in Figure 3.

Table 3. Changes in the intensity of parasitism with Sarcoptes scabiei var. bovis, with age

<table>
<thead>
<tr>
<th>Category of age</th>
<th>Livestock</th>
<th>Intensity of parasitism</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Massive infestation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cap</td>
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<tr>
<td>0-6 luni</td>
<td>72</td>
<td>6</td>
</tr>
<tr>
<td>6-12 luni</td>
<td>84</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>156</td>
<td>19</td>
</tr>
</tbody>
</table>

Figure 3. Intensity of parasitism with Sarcoptes scabiei var. bovis in young cattle
Histopathologically, at the skin tissue (Figure 4) parasites are found in exfoliate layer of the epidermis, the spaces defined by blades of keratin, sometimes paracheratin. In some epithelium were squamous cell are vascularizated and the chorion shows limfo granulocytes infiltration.

Figure 4. Skin—Sarcoptes scabiei, located in cheratizitated layer with thorny rare vacuolated cells and infiltrating dermal papillae limfo granulocyte (col. Tricrom-Masson, ob. 100X)

4. Conclusions

Clinical and laboratory investigations on the incidence and intensity of sarcoptic mange in a herd of 156 young cattle and histo-pathological picture of changes in the skin, highlights the following:
1. Anatomic and clinical examination performed revealed that 47.4% of young cattle have examined clinical anatomical changes visible (crusts, depilation, itching and scratching), with significant differences related to age and type of anatomical-clinical manifestation.

2. The incidence of sarcoptic mange by microscopic examination, ranging from 34.75 (category 0-6 months) to 38.0% (category 6-12 months) with an average of 36.5%.
3. Parasitism intensity Sarcoptes scabiei, var. bovis is correlated with the age. Thus the 0-6 months category predominate weak infestation (44.0%), while the 6-12 months category predominate large and medium infestation (40.6%).
4. Histopathologically, the sections made in the skin and color shows the presence of parasites in the layer of epithelium with exfoliate limfo granulocyte poor infiltration.

References