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LIST OF ABBREVIATIONS

<i>Corynepyogenes</i>	<i>Corynebacterium pyogenes</i>
Corynepyogenes	Coryne/pyogenes
DTCS reagent	Dinitrophenylhydrazine-thiourea-copper sulfate reagent
Gram + ve	Gram positive
Gram-ve	Gram negative
<i>K-pneumonia</i>	<i>Klebsiella pneumonia</i>
MIU media	Motility indole urea
<i>Past.</i>	<i>Pasteurella</i>
Past. Haemolytica	Monnhemia haemolytica
Spp.	Species
<i>Staph.</i>	<i>Staphylococcus</i>
<i>Strept.</i>	<i>Streptococcus</i>
TSI media	Triple sugar iron test

SUMMARY AND CONCLUSION

A total number of 290 Egyptian balady calves (220 cow calves and 70 buffalo-calves) of both sexes constituted the material for this investigation of them 200 were suffering from respiratory diseases.

Their age ranged between 4-18 months. Animals were located in and around Assiut City.

Examined animals were divided into 8 groups according to species of calves and clinical signs into slaughtered cow calves with upper respiratory infection. Slaughtered cow calves with lower respiratory infection, clinically healthy cow calves (control I to group I & II)- alive cow calves with upper respiratory infection, alive cow calves with lower respiratory infection-alive clinically healthy cow calves (control II to group IV & V)- pneumonic buffalo- calves, clinically healthy buffalo-calves (control III).

- All animals in this study were exposed to careful clinical examination, (90) calves were apparently clinically healthy (three groups) represented each (30) calves, while (200) were suffering from respiratory infection.
 - Samples were collected as soon as possible and transferred quickly to the concerned laboratories to cytological, bacteriological and biochemical examination. The post mortem examination of slaughtered calves was recorded in Assiut abattoirs.
- I - The clinical signs accompanying the respiratory infection were increase of body temperature, coughing, nasal discharge in different forms, congestion of lining mucous membrane conjunctivitis, sneezing or wheezing in the upper respiratory tract

then the signs rapidly transferred into difficult and rapid respiration and signs of lower respiratory diseases.

II- Bacteriological examination of respiratory diseases were done from samples of nasal swabs, tracheal swabs and lung samples from slaughtered calves while examination were done from nasal swabs only in alive calves.

Through bacteriological examination of (A): Slaughtered healthy (30 calves) and slaughtered diseased cow calves (80 calves upper and lower) revealed that 66 and 314 bacterial strains of healthy and diseased calves were isolated from nose, trachea and lungs respectively as follows 36 (54.55%), 122 (38.85%) isolates for nose, 29 (43.93%) and 119(37.90%) isolates from tracheas and 1(1.52%) and 73(23.25%) isolates from lung samples in healthy and diseased calves respectively.

The most Common bacteria isolated as total slaughtered isolates from healthy and slaughtered diseased cow calves were *Staph. aureus* (25.76%) and 39(27.39%), *Strept.spp* 10.(15.15%) and 38(12.10%), *Staph. epidermidis* 10(15.15%) and 16(5.10%), *Corynebacterium* 2(3.03%) and, (2.87%) and Gram-negative bacilli: 27(40.90%) and 165(52.54%). Where *E. Coli* 8(12.12%) and 57(18.15%), *K. pneumoniae* 0.0(0.0%) and 41(13.06%), *Past. multocida*, 8(12.12) and 34(10.82%), *Past haemolyticus* (13.64%) and 20(6.37%) *Proteus vulgaris* 0.0 (0.0%) and 7(2.23%) and *Citrobacter spp.* 2(3.03%) and 4(1.27) respectively

The lowest bacterial isolates from healthy calves were *Corynebacterium* *Citrobacter spp.* and represented each 2(3.03%) *Pseudomonas aeruginosa* 2(0.64%) in diseased calves

B- Bacteriological examination of nasal swabs of healthy (30 calves) and diseased (80 calves upper and lower) a live cow calves were 40 and 142 as total bacterial strains isolated respectively.

The most common bacterial isolates, from alive healthy and alive diseased cow calves were *Staph.aureus* 15(37.5%) and 40 (28.17%), *Staph. epidermidis* 6(15%) and 0.0(0.0%) *Strept .spp* 6(15%) and 7 (4.93%), *Corynepyoenes* (0.0%) and 3 (2.11%) and Gram-ve bacilli 13(32.5%) and 92(64.7%) respectively where *E.coli* 5(12.5%) and 39(27.46%), *K.pneumonia* 1(2.5%) and 26(18.30%), *Past. multocida* 0.0(0.0%) and 13(9.15%), *Proteus vulgar:* 3(7.5%) and 7(4.93%), *past. haemolytica* 4(10%) and 4(2.82%) and *Citrobacter spp.* 0.0(0.0%) and 2(1.41%) respectively while *K.pneumoniae* 1 (2.5%) and *Pseudmonas, aeruginosa* 1 (0.70%) were represented the lowest bacterial isolates.

C- Bacteriological examination of slaughtered healthy (30 buffalo-calves) and Slaughtered Pneumonic buffalo calves, (40 buffalo-calves) revealed that 60 and 120 bacterial strains, were isolated from nose, trachea and lungs in healthy and pneumonia calves respectively as follows 36 (60%) and 32 (26.66%) isolated, from nose, 24(40%) and 38 (31.66%) isolated from trachea and 0(0%) and so (41.66%) isolated from lung Samples respectively.

The most common bacteria isolated from healthy and pneumonic buffalo calves were *Staph.aureus* 22 (36.07%) and 24 (20%), *Past. haemolytica* 2 (3.33%) and 22 (18.33%), *Strept .spp* 2(3.33%) and 18 (15%), *coryne pyogenes* 0.0 (0.0%) and 12 (10%), *E. coli* 12(20%) and 16 (13.33%) *K.pneumoniae* 0.0 (0.0%) and 16 (13.33%), *Past. multocida* 10 (16.67%) and 12 (10%), *Staph. epidermidis* 8 (13.33%) and 0.0 (0.0%) and *Pseudomona aeruginosa* 4 (6.67%) and (0.0%) respectively *Strept*

.spp and *Past. haemolytica* were represented. The lowest bacterial isolated in healthy calves and represented each 2 (3.33%) while *Corynebacterium* and *Past. multacida* represented. The lowest bacterial isolated from pneumonic calves and represented each 12 (10%).

The biochemical analysis of blood sera revealed highly significant decrease ($P < 0.01$) in both total protein and albumin in all examined diseased calves when compared with the healthy ones. Meanwhile the blood serum globulin showed a highly significant increase in diseased calves when compared with the control ones.

Highly significant decrease ($p < 0.01$) in level of blood serum vitamin C (mg/dl) in diseased calves was recorded when compared with level in apparently healthy one.

Concerning differential leucocytic count increase number of neutrophils were recorded in a diseased calves which indicated to bacterial infection.

V- Cytological examination of tracheal washes of diseased calves revealed presence of inflammatory cells and bacteria in tracheal smears. Neutrophils were the most common cells observed in diseased calves, which indicated bacterial infection, also the smears contain epithelial cells, lymphocytes, macrophages, eosinophils and bacteria cells.

The result of direct smear of healthy calves revealed presence of ciliated columnar or cuboidal epithelial cells, few neutrophils, few or absent of eosinophils.

There was increase number of macrophage and lymphocyte in healthy one due to immunity of the calves.

Increase number of ciliated epithelial cells due to mucosal trauma during and/or absent of microbial agent which acts to loss the epithelial cells suddenly

VI- The post-mortem examination of diseased calves revealed congestion of mucous membrane of the nasal cavity and trachea, which contains various, types of exudates. Petechial haemorrhage and spots of congestion were seen in the lumen of trachea. The lungs were swolled red, firm and heavy.

The inflamed area was congested with slight oedema. Some cases Showed small area of abscesses

Form all previous results it can be concluded that:

The presence of high percentage of respiratory infection in calves in Assiut Governorate could be attributed to the polluted environment, risk factors, housing, seasonal variations, bad hygienic measures and poor nutrition which acts as stress factors leading to lowering the resistance of calves and making them liable to Several bacterial agent, and predispose for outbreaks of respiratory diseases

The most lower respiratory infection were extend form upper respiratory infection (presence high number of bacteria) through bronchial tree Smith, (1996) and Seedek and Thabet, (2001).

The number of bacteria was higher in diseased calves than healthy one.

The variation in isolation percentage may be attributed to bad hygienic measures seasonal variation and immune status of infected calves.

Marked immune reaction is found in calves suffering from bacterial infection in respiratory tract, this is clearly seen by the highly significant increase of globulins and the marked reduction of vitamin C when compared with healthy ones, while the cytological examination of tracheal washes revealed increase percentage of neutrophils and also an increase in differential leucocytic count, which indicated bacterial infection.

Young calves were more susceptible to infection than the old ones.