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Clinical And Laboratory Studies On Ruminant = Acidosis In Small Ruminants	العنوان:
دراسات إكلينيكية ومعملية على حموضة الكرش فى المجترات الصغيرة \	بيانات أخرى:
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Six male goats (22-25 months old), with mean body weight of 32 kg, were used in experimental induction of acute ruminal acidosis, wheat flour was used in a dose rate of 50g/kg body weight, wheat flour was dissolved in a suitable amount of water and infused intraruminally through a surgically prepared ruminal cannula. Just before infusion (zero hr), respiratory rate, rectal temperature, heart rate and ruminal movements were obtained, also blood samples were obtained in order to determine blood pH and perform a blood picture. Blood serum was used to determine lactate, total protein, albumin, AST, GGT, urea and creatinin. Ruminal fluid was also collected from all animals, for examination of physical character, ruminal protozoal activity and its count as well as some ruminal biochemical parameters were measured (pH, lactate and glucose). Good observation of the animals was applied for recording of the clinical findings after infusion of	ملخص:

wheat flour. Clinical and blood parameters as well as ruminal fluid samples were examined at 12, 24 and 36 hrs post induction to monitor any changes. The results obtained from the present study were as follows:

Clinical signs had appeared rapidly after infusion in the form of anorexia. Teeth grinding, arched back, general weakness, depression, muscle shivering, apathy, tendency for recumbency, dehydration and diarrhea were observed in the experimental animals by 12 hrs following engorgement and till the end of the experiment.

Ruminal motility was completely inhibited post induction, respiratory rate increased significantly from 23.33 ± 1.11 cpm at zero hr into 37.67 ± 4.51 at 24 hr post induction, heart rate increased significantly from 93.33 ± 6.25 bpm at zero hr reaching its maximum value (138.67 ± 3.04) at 12 hr post induction, while rectal temperature decreased significantly from 39.58 ± 0.06 oC at zero hr, into 38.53 ± 0.3 and 38.2 ± 0.03 oC at 24 hr and 36 hr respectively.

Ruminal biochemical changes showed great disturbances in the form of a sharp decline in ruminal pH from 6.10 ± 0.13 at zero hr into 4.23 ± 0.07 at 24 hrs, also lactate concentration increased sharply from 3.25 ± 0.12 mmol/l at zero hr into 27.85 ± 2.41 mmol/l at 24 hr. Significant increase in glucose concentration was also recorded.

Ruminal protozoa were affected dramatically by acute ruminal acidosis, where it was completely disappeared in the first sampling time post induction (12 hr), while its initial count was $.894.85 \pm 92.28 \times 10^3$ /ml ruminal fluid.

Physical characteristics of ruminal fluid had shown marked changes, its color changed from olive green at the beginning of the experiment into whitish and whitish yellow post induction, its odor get repugnant

<p>sour odor, besides its viscosity had increased Investigated blood and serum biochemical parameters showed marked changes, where a significant decline in venous blood pH from 7.49 ± 0.01 at zero into 7.29 ± 0.02 at 36 hr which indicates a systemic acidosis and a significant elevation of serum levels of lactate, total protein, albumin, GGT, urea and creatinine were observed at different intervals post induction, while a non significant increase in serum .AST activity was recorded</p> <p>Blood picture has changed following induction where PVC increased significantly from 25.67 ± 1.40 % into 32.00 ± 2.06 % by 12 hr post induction. Also RBCs count and Hb concentration increased significantly due to dehydration. Total WBCs count and neutrophil % was increased significantly, while lymphocyte was decreased significantly</p> <p>Two animals were slaughtered at 48 and 72 hrs post induction in order to perform a post mortem examination, besides tissue specimens were obtained from the fore stomach to perform a histopathological examination, the following results were obtained</p> <p>a) The recorded post mortem findings were, congestion in blood vessels supplying rumen and intestine, erosions and hemorrhages in internal ruminal and reticular walls, sloughing in ruminal papillae and mucosal layer, besides hepatic congestion and enlargement in the gall bladder</p> <p>b) The histopathological findings revealed sloughing of mucosal layer covering the rumen, with loss of the keratin layer covering the ruminal papillae in different areas, besides marked submucosal infiltration with leukocytes and sub mucosal hemorrhages</p>	
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