Oral Presentation

Management of Mandibular Fracture in Large Animals

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Objectives- Mandible and maxillary fractures represent a real challenge for the Veterinary orthopedist. The purpose of the study was to determine the different surgical modalities used to repair the fractured jaws and their prognosis in large animal cases.

Animals- Large animals referred affected by jaw fracture.

Design- Retrospective study

Procedures- The file reports of the animals affected by mandibular or maxillary fracture presented to Veterinary teaching hospital of the Shiraz Veterinary School during a period of ten years were collected and the data were analyzed

Results- A number of 18 cases were presented from which 44% were calf and 56% were adult horse of both sexes. The mandibular fracture in horses were more in rostral third (60%) than rostral half (30%). The surgical techniques used were plate fixation (27%), wiring (22), transfixation (11%), figure of 8 fixation (11%), pin (5.5%), rest (16.5%). The prognosis was good except in case of severe trauma and post op complications.

Conclusions and Clinical Relevance- Mandible and maxillary fractures represent a real challenge for the Veterinary orthopedist, but the prognosis is good if they are operated early. It is useful for clinical and surgical intervention of fractured jaws.

Key Words- Mandibular fracture, Maxillary fracture, Internal fixation, Horse, Calf

References

Oral Presentation

Antioxidant Concentration Status in the Serum of Cows with Left Displacement Abomasom

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Objective- To determine antioxidant concentration status in the serum of cows with left displacement abomasom

Design- This study is a descriptive study. This study was conducted on 30 heads of affected cows by the left displacement abomasum (LDA) and 30 heads of healthy cows in order to examination of sera concentrations of the selenium, glothation peroxides and vitamin E in these two groups.

Animals- 30 heads of healthy cows

Procedures- The affected cattle by LDA were conformed on the basis of clinical and laboratory symptoms, some bell sound in the left side and punctation from the sound site and determining PH of the fluid which will be acidic in the LDA. The control group cattle also were selected from similar environmental, managerial and feeding condition. The blood sample from the jugular vein was gathered and after the serum separation, the vitamin E levels in serum was measured by chromatography fluorimetry, selenium was measured by atomic absorption and Glutathione peroxides was calculated by biochemical kit.

Results- The mean level of selenium in the serum in affected and control groups were 26.44±1.02 and 31.23±0.98 ng/ml, respectively and there was significant difference between them (P<0.05). The mean level of vitamin E in these groups were 2.73±0.23 and 4.72±0.19 ng/ml, respectively in which there was significant difference between two groups (P<0.05). The mean activity level of Glutathione peroxides in affected group (61.7±1.46 Mu/mg) was higher than the control group (61.56±1.67 Mu/mg), nonsignificantly. Correlation between calculated parameters in control group was not significant but in affected group correlation between vitamin E and Glutathione peroxides was significant (p<0.05 and r = 0.421).

Conclusion and Clinical Relevance - The result was that anti oxidants' serum level in affected cattle is lower than the healthy cattle and must be used the supplementary containing selenium and vitamin E in the form of injection or additive in feeding for the affected cattle.

Key Words- Cow, Antioxidant concentration, Serum, Left displacement abomasom

References


Oral Presentation

Comparison the Effect of One or Double Side Surgery of Abomasal Displacement on Milk Production and Reproductive Performance in Iranian Holstein Dairy Cow

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Objective- The study was conducted in a dairy farm around Neyshaboor city and was intended to compare each omentopexy surgery (one or two sided) on cows with abomasal displacement in terms of its effect on milk yield.

Animals- A dairy farm

Design- Descriptive

Procedures- The amount of milk produced at intervals of 10 days before surgery and on days 10, 20, 30, 40, 50 and 60after surgery were recorded. All animals between days 10 and 20 after calving were operated. Information about the amount of milk produced in the two groups were collected and analyzed for determination of differences between one side surgery (right flank surgical incision alone, group A) and bilateral surgery (right and left flank surgical incision together, group A) on the cows with displacement of the abomasum. Repeated Measures ANOVA statistical analysis was performed using SPSS software.

Results- Comparison of milk production in the two groups indicated that Milk yield at day 10 after surgery is significantly higher in the group had bilateral surgery that could indicate a faster recovery of group A compared to cows of group A. On the other hand, there was no significant difference between the two groups in the process of return to milk production until day 60 after surgery.

Conclusion and Clinical Relevance- Unilateral surgery for correction of abomasal displacement due to faster return to peak of milk production and less time is needed to complete surgery and fewer complications after surgery it is recommended over the bilateral surgery model.

Key Words- Surgery, Flank, Milk production, Dairy cow

References


Oral Presentation

Evaluation of Hoof Lesions Resulted in Lameness on Culling Rate in Dairy Cows in Shahrekord Area

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Objective- Evaluation of hoof lesions resulted in lameness on culling rate in dairy cows in Shahrekord area

Animals- This current study was done on a large industrial farm with 1800 milking cows; the cows which were calved from August 2010 to August 2011 were selected. All selected cows were followed until next parturition or culling (in the case of cows that were removed from the herd before the next parturition).

Procedures- Lesions leading to lameness were divided in 7 groups; sole ulcers, white line lesions, heel ulcers, toe ulcers, digital dermatitis, interdigital phlegmon or interdigital dermatitis and other injuries based to different hoof regions. Data extracted from hoof trimming data recording sheets that was done by a professional hoof trimmer. Relationship between types of lesions leading to lameness with culling was evaluated by Chi-Square and Fischer exact test.

Results- Total of 1461dairy cows was included in the analysis. Evaluation of the effects of injury type on culling showed that, the culling rate in cows with heel ulcers was higher than sound cows(53.3% vs. 27%)(P<0.05). Odds ratio of culling the cows suffered
from heel ulcer was 1.3 times of healthy cows or suffering from other injuries. Other injuries did not show any significant effect on culling.

**Conclusion and Clinical Relevance** - These findings indicate that primarily the heel ulcers should be detected and all factors affecting heel ulcers should be controlled to reduce the culling effect of heel ulcers.

Lameness is a clinical manifestation of a vast spectrum of diseases specified in a total of 43 causes and more than 80 potential hazards. It has been classified as the most important welfare problem in dairy cows. According to many reports, lameness takes the third place in causing economic loss to dairy farmers after infertility and mastitis. The economic loss associated with lameness incurred as a result of disease arises primarily from the consequences of disease and not the cost of treatment. Culling (exiting) is the departure of cows from the herd because of sale, slaughter, salvage, or death. The term “cull” refers to all cows that leave the dairy regardless of their destination or condition at departure.

**Key Words** - Lameness, Culling, Dairy cow, Chi-Square Test, Fischer exact test

**References**

**Oral Presentation**

**Treatment of Chronic Mastitis in a Dairy Cow: A Case Report**

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**Case Description** - A 4-years old crossbred cow, presented to Outdoor Hospital with a history of no milk letdown from udder even 7 days after parturition (in 3rd lactation).

**Clinical Findings** - After complete physical and clinical examination, it was concluded that animal was suffering from chronic mastitis and was unresponsive to medicinal treatment of 5-7 days.

**Treatment and Outcome** - After proper restraining of the animal, the fibrosed material in teat canal was crushed with teat bistoury and removed through hand milking process. To avoid further adhesion in the teat canal and for milking purpose, four plastic tubes made from I/V drip set having stoppers were passed through the teat canal. These tubes were fixed to teat with the help of suture material and adhesive tape. Finally, the animal was given intra-mammary tubes, parental antibiotics and NSAID. Animal recovered as milk started coming out of teat canal and after 7 days these tubes were removed. It is conclude that this is very cheap and effective surgical method for the treatment of chronic mastitis in dairy animals.

**Clinical Relevance** - In many cases, mastitis in dairy animals due to unawareness about dry cow therapy is observed after partruition and similar observations were reported by Hillerton and Berry (2005). Intra-mammary tubes were given through the plastic tubes inserted in teat canals as reported by Rodastitis et al. (2007) that in mastitis both intra-mammary and parental routes gave better results.

**Key Words** - Mastitis, Dairy cow, Surgical treatment

**References**

**Oral Presentation**

**Sole Ulcer as a Sign of Sub-acute Rumen Acidosis in a Simmental Dairy Herd Cows**

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**Case Description** - A dairy herd of Simmental cattle received feeding of higher ratios of non-structural carbohydrates to forage with particle size of less than 20-mm and lameness. Dry matter intake was lower than predicted DMI for these breeds.

**Clinical Findings** - The clinical signs included a mild diarrhea, a moderately distended and doughy rumen, a reduction in feed intake, milk fat depression and sub solar hemorrhages, sole ulcer and laminitic claw changes.

**Treatment and Outcome** - NDF, Forage NDF, physically effective NDF (peNDF; calculated as >19 mm) and effective NDF (eNDF) was adjusted to 32 % DM, 73.5 % NDF, 24 % DM and 26 % DM respectively.
Also, localized conservative treatment of the sole ulcers was performed.

**Clinical Relevance**- A tentative diagnosis of sub-acute rumen acidosis is usually confirmed by the herd response to corrective nutrition.

**Key Words** - Physically effective NDF, Effective NDF, Sub-acute Rumen acidosis, Sole ulcer

**References**

**Oral Presentation**

**Ultrasonographic, Laparoscopic and Surgical Findings in Cow with Omental Bursitis: Case Report**

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**Case Description**- A cow with loss of appetite and abnormal distension of the abdomen

**Clinical Findings**- The main clinical findings were abnormal distension of the abdomen as the most important clinical symptom. The owner complained of the fact that the cow showed loss of appetite and abnormal distension of the abdomen. The most important finding on clinical examination was made on rectal exploration in which a large sac filled with fluid was felt in the left and right side in the abdomen. In the right side the large sac correspond with dilated abomasum. The purpose of this report is to describe unusual case of abdominal distention due to inflammation of the omental bursa. This diagnosis was verified by laparoscopic, ultrasonographic and surgery studies.

**Treatment and Outcome**- Left and right flank exploratory laparoscopy was performed. A large mass was seen in laparoscopy exploratory laparotomy showed that, this was an inflamed omental bursa containing a large quantity of serofibrinous exudate, about 30 L of fluid were within the cavity. Ultrasonography help us to localize the lesion to make surgical drainage. The clinical diagnosis is difficult and is usually based on exploratory laparotomy, laparoscopy and ultrasonography. Treatment consists of drainage of omental bursa.

**Clinical Relevance**- This case report describes the clinical, ultrasonographic, laparoscopic and surgical findings in a Holstein cow with omental bursitis. This is an interesting case to use ultrasonography and laparoscopy to confirm omental bursitis.

**References**

**Poster Presentation**

**The Effect of Mycobacterium Avium Paratuberculosis Infection on Digital Diseases Occurrence in Dairy Herds**

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**Objective**- Mycobacterium avium paratuberclusis infection or Johne's disease is a chronic progressive infection of ruminants. Clinical form of the disease is characterised by chronic diarrhea, emaciation, weakness and death. The subclinical form of disease is characterized by progressive weight loss, reduced milk production and early elimination of infected animal. This study was designed to evaluate the effect of *Mycobacterium avium paratuberclusis* infection on lameness, sole ulcer, white line disease and phelegmon in an industrial dairy farm.

**Design**- The case-control study to identify *Mycobacterium avium paratuberclusis* infection.

**Animals**- 1700 dairy cattle

**Procedures**- ELISA test (ID. VET co., France) was used. All data about previous and current lactation periods of 1700 dairy cattle was recorded between 2010-2013. These data were analyzed by SAS version 9.2. Chi-square test, used for analyzing the data. A *P* value ≤0.05 were considered significant.

**Results**- In this study the effect of *Mycobacterium avium paratuberclusis* infection on lameness (12.74% positive cows, 24.70% negative cows) was significant. But it was not significant on sole ulcer and.
Infected cows was unexpectedly had a significant lower incidence of lameness and white line disease.

**Conclusion and Clinical Relevance-** According to the Mycobacterium paratuberculosis infection cause reduced BCS, impotence, decreased production of diarrhea and other symptoms Reduced milk production, causing less metabolic stress, as well as less negative energy balance problems and the effects of animal weight, incidence of lameness is also less.

**Key Words-** Mycobacterium Avium paratuberculosis Infection, Lameness, Elisa Test

**References**
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**Poster Presentation**

**A Case-Report: Clostridial Edema Following Cesarean in a Half-Blood Holstein Cattle**

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**Case Description-** A cow with the history of cesarean operation 10 days ago and extensive swelling back of xyphoid to the cranial section of the udder was referred to Veterinary hospital of Shahid Chamran University, Ahwaz, Iran.

**Clinical Findings-** There were no abnormal clinical signs on the examination. To detect the cause of the swollen area, aspiration steriley was made and stained by Giemsa. Cytological study and the amount of total protein of the inflamed area have showed the edema. In the stained sample Clostridium spp. Observed.

**Treatment and Outcome-** Treatment started with 50000 IU/body weight penicillin plus streptomycin for one week. Since septicemic signs were not noticed, the treatment lead to a significant decrease in edema and the full recovery after 4 weeks post-infection.

**Clinical Relevance-** Clostridium is a gram positive aerobic bacteria that could cause septic edema especially at the ventral parts of the abdominal cavity and the limbs due to the gravity. The infection is hardly treated except in primary cases with high dosages of penicillin. It can usually occur after unsterile operations, so it is recommended that in large animal surgeries at the farms, the clinician follow the aseptic principles and administer a prophylactic antibiotic for an appropriate period.

**Key Words-** Clostridium, Edema, Cesarean, Cattle

**References**

**The Pathological Report of Squamous Cell Carcinoma (SCC) in Calf**

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**Case Description-** In autumn 1392, a 6-month-old calf Holstein breed was referred to clinic of veterinary university for treatment because of the presence of two non-bloody injury and pedicellate (cauliflower-like) on the side and under the belly.

**Clinical Findings-** Squamous cell carcinoma (SCC), is one of the malignant tumors of the skin, which is derived from the epidermal keratinocytes. These tumors have been observed in animals, especially in older one, and are observed in most of the areas of ears, eyes, nose and wool and hair-free areas that are exposed to sun light and chemicals.

**Treatment and Outcome-** After apparent investigating, the mass was removed by surgery group, and samples were sent to the pathology laboratory. In histopathological investigation, epithelial cells penetration as rotary (island-like) and often without keratin (Squamous eddies) into depth of dermis and connective tissue as well eosinophilic cytoplasm cells with low and non-typical indistinct margins and mitotic divisions were observed. With survey specifications of Macroscopic and microscopic findings, the mass of squamous cell carcinoma differentiated moderately that the emergence of that at this age is very rare.

**Clinical Relevance-** Due to the geographical location of the province, and the role of animal husbandry, and also the carcinogenic role of sun light in the first degree, it is
necessary to examine the factors affecting the appearance of the tumor as much as possible, and on this basis toward presentation of practical solutions for preventive programs is recommended.

**Key Words**- SCC, Carcinoma, Squamous cell, Histopathology, Calf

**References**


**Poster Presentation**

**A Big Cutaneous Horn on the Ovine Abdominal Skin**

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**Case Description**- A cutaneous horn is a conical, dense hyperkeratotic protrusion. A 3-years-ewe was referred to the clinical sciences department with a long horn like tissue protrusion over the skin in lower part of abdomen that has been grown from 6 months ago.

**Clinical Findings**- The horn like tissue was very big about 25 centimetres in length. It was a firm tissue and in appetite similar a normal horn on the head of a cow. Walking and sleeping of the animal was difficult due to interference of the horn projection. Radiography and sonography was performed for evaluating extension of the horn. It was shown no relation of it into the abdomen.

**Treatment and Outcome**- The animal was restrained dorsally. After sedation and local anaesthesia a circular incision was made around the base of the horn. The incision line was deepened and hemorrhage was controlled appropriately. The horn was removed completely. It was limited to skin and not relation to abdominal wall and abdominal cavity. Inside the horn was filled with a very soft creamy like material with horn tissue smell. Histopathologic evaluation confirmed a conical hyperkeratinisation. No complication or recurrence of tissue growth was reported after some months.

**Clinical Relevance**- Cutaneous horns are uncommon lesions consisting of keratotic material resembling that of a normal horn. There is no similar report about a big cutaneous horn of sheep in literature. The outcome of this case can help to clinicians that conical tissue growth usually is limited to skin and surgical removal is a successfully way for treatment.

**Key Words**- Sheep, Cutaneous horn, Surgery

**References**


**Case Description**- A five-year-old ghezel ewe was submitted to the Tabriz University veterinary teaching hospital with a 4 day history of abdominal distension.

**Clinical Findings**- The animal had delivered 2 healthy lambs 4 days earlier, and was inappetent, depressed and reluctant to move. Empirical treatments with antibiotic and calcium solution were ineffective. The presence of a dead embryo in the uterus was considered possible after x-ray examination, and a laparotomy for cesarean section was decided. Fluid and prophylactic antibiotic were administered before surgery.

**Treatment and Outcome**- Left paralumbar laparotomy was done as routine. Laparotomy revealed fibrinous peritonitis, gangrenous metritis and a partially autolysed embryo in the uterus. The embryo, which was removed by a cesarean section, was emphysematose. An ovariohysterectomy was performed from the same section, to increase the ewe's possibility of survival. A sample from the necrotic uterus was sent for bacteriological examination.

**Clinical Relevance**- A delay in treatment of dystocia increase the risk of losing of lambs, as well as of the ewe. Prolonged dystocia in ewes causes necrotic metritis and is usually fatal. OHE should be considered in ewes with...
prolonged dystocia that have uterine necrosis to improve survival.

Key Words- Ewe, Dystocia, Ovariohysterectomy

References

Poster Presentation

Hypospadias in Kids
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Case Description- During 2010-2014, 11 goat kids with signs of hypospadias were referred to the Shiraz Veterinary Medicine University and Jam veterinary organization, Iran. The age of patients ranged from 2 weeks until 1 year old. The purpose of this study is to report a rare congenital urinary tract anomaly in some goat kids.

Clinical Findings- All male goats (Capra hircus) showed depression, degrees of inappetence, pain, vocalizing, and the existence of a small bag between prepuse orifice and scrotal region. Physical examination revealed the absence of fever, increased heart rate, and increased breathing rate. The urinary tract was absent in the anterior part of the urethra (agenesis). Urine was contained in the penile urethral diverticulum.

Treatment and Outcome- For the treatment of patients, penile urethrostomy at the proximal region of the defect was performed by suturing the urethral epithelium to the skin with 3-0 nylon sutures in a simple interrupted pattern. A slot on the diverticulum was created with a surgical blade. The gap was not sutured. The kid was treated with antibiotic and anti-inflammatory drugs. Ten days later, the kid was reexamined, and the edges of the urine output gap in the bottom of the diverticulum were relieved. Urine passed readily from this opening, and clinical symptoms were absent.

Clinical Relevance- According to questionnaire of kid owners, inbreeding seems had important role in born kids with this anomaly. Surgical treatment is essential for these cases but cases were not return to normal function as natural kids or bucks.

Key Words- Hypospadias, Goat Kids, Iran

References

Poster Presentation

An Umbilical Hernia in a Sistani Breed Calf
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Case Description- one week old Sistanian calf

Clinical Findings- one week old Sistani calf was presented to the clinic of veterinary medicine of University of Zabol.

Treatment and Outcome- A reducible mass was founded in umbilical area. A complete circle ring on abdominal wall

Clinical Relevance- when animal was in standing position a soft tissue was palpated in the hernial sac. Diagnosis was umbilical hernia and case prepared for aseptic surgery. A local anesthesia with lidocaine 2% was performed around of the mass. Skin and hernia sac were opened. The hernial sac was empty and there was not any mass in the location and the hernia was a simple hernia. So hernial sac was removed completely with scissors and hemostasis was done. Halsted stitching was performed on the abdominal rectus muscle around the hernial ring. Subcutaneous and skin were sutured by simple continuous (catgut 2-0) and horizontal mattress. Due to severe hemorrhage in the wall of hernial sac removal of hernial sac is not recommended.

Key Words- Umbilical hernia, Sistanian calf, Hernial sac

References

Poster Presentation

Surgical Repair of Congenital Rectovaginal Fistula with Atresia Ani in Two Cases
Hadi Naddaf, Hadi Imani*, Siavash Jahany, Soroush Sabiza
**Case Description**

Congenital rectovaginal fistula characterized by the communication between the dorsal wall of the vagina and the ventral portion of the rectum, usually, is associated with type II atresia ani, in which the rectum ends as a blind pouch immediately cranial to the anus. In this paper surgical repair of congenital rectovaginal fistula with atresia ani in two cases of large animals is described.

**Clinical Findings**

A 3-day-old lamb and one-week-old heifer with the history of inappetence, depression, weakness, abdominal distention and discomfort following abdominal palpation were referred to Veterinary hospital of Shahid Chamran University of Ahvaz, Ahvaz, Iran. Physical examination revealed normal vital signs. Further clinical examination showed an atresia ani which some feces could exit from vulva through a rectovaginal fistula.

**Treatment and Outcome**

After appropriate restraint and preparation, the rectovaginal fistula was converted to third-degree perineal laceration, the vulvar and rectal defects were closed separately, and the atresia ani was repaired. One month follow up showed normal defecation and good recovery of animals.

**Clinical Relevance**

Surgical correction of concurrent rectovaginal fistula and atresia ani in lambs and heifers can result in favorable results, especially at early stages.

**References**


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**Case Description**

A two-day-old calf with mandibular fracture resulted from forceful pulling the calf’s jaw during delivery was referred to the clinic of veterinary school of Shiraz University.

**Clinical Findings**

On clinical examination, downward drop of the rostral mandible was obvious. Following sedation using diazepam 0.5 mg/kg IM, a multiple fracture was diagnosed by palpation of two fracture lines; between central incisors backward to the left diastema and between the diastema of both sides. The diagnosis was confirmed by lateral and open mouth ventrodorsal radiographs.

**Treatment and Outcome**

Mandibulo-alveolar nerve block was performed by 10 ml lidocaine injection at the lower angle of the jaw along the medial surface of the ramus of the mandible. The mouth was flushed with copious amount of normal saline. Wiring of the incisor teeth to the opposite interdental space did not provide satisfactory anatomic reduction. Transcutaneous insertion of two pins in proximal and distal bone fragments of the mandible was carried out and connected by two external bars. External fixator was tolerated by patient and removed 3 weeks later. Complete healing of the fracture was approved by radiographs 1 month later and the wires were removed, too.

**Clinical Relevance**

Mandibular fracture is common in the farm animals especially in the newborns during dystocia relief but Mandibular fractures in young animals are of acceptable prognosis because of high vascular supply of the anatomic location and also rapid growth rate.

**Key Words**

Calf, Mandibular fracture, Intramedulary pin, External fixator bar

**References**


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**Case Description**

A two-day-old calf and one-week-old heifer with the history of inappetence, depression, weakness, abdominal distention and discomfort following abdominal palpation were referred to Veterinary hospital of Shahid Chamran University of Ahvaz, Ahvaz, Iran.

**Clinical Findings**

On clinical examination, downward drop of the rostral mandible was obvious. Following sedation using diazepam 0.5 mg/kg IM, a multiple fracture was diagnosed by palpation of two fracture lines; between central incisors backward to the left diastema and between the diastema of both sides. The diagnosis was confirmed by lateral and open mouth ventrodorsal radiographs.
Case Description- A female goat was referred to the Shiraz Veterinary Medicine School with a history of falling down of mountain the day before coming.

Clinical Findings- The right forelimb had a large open fracture in metacarpal area with a lot of hemorrhage. In radiographs the metacarpus was showed at least five fragments mainly in diaphysis.

Treatment and Outcome-As the fracture was multiple, internal fixation was performed. In lateral recumbency under general anesthesia, a longitudinal incision was made craniomedial on the metacarpal region. There were 5 fragments of bone. At first, the fragments were reduced and then fixed with cerclage wires as auxiliary fixation. For rigid internal fixation, a suitable plate was used on the craniomedial of bone. For supporting the limb, an external fixation with bandage and splint was applied. Five days antibiotics and anti inflammatory agents were used after operation. No complication was reported after some weeks.

Clinical Relevance- In multiple fractures a rigid internal fixation is essentially. In addition an external fixation recommended due to movement limitation.

Key Words- Goats, Multiple fracture, Metacarpus

References

Poster Presentation

Surgical Resection of Subcutaneous Lipoma with Osseous Metaplasia in a Cockatiel (Nymphicus hollandicus): A Case Report

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Case Description- A 5-year-old female cockatiel with unilateral dropped wing appearance, restricted movement and discomfort was presented.

Clinical Findings- Clinical examination revealed a yellowish, solid mass measuring $2 \times 2 \times 2$ Cm on carpal region under the left wing. Surgical resection of the mass was suggested.

Treatment and Outcome- The bird was anesthetized with ketamin and diazepam injection and the site prepared for aseptic surgery. An elliptic incision was made into the skin and subcutis. The capsule of the mass was blunt dissected and extracted. The entire mass and surrounding necrotic soft tissue were removed en-bloc. The mass was submitted for histologic examination and the bird was recovered successfully. Histopathologic findings indicated lipoma with foci of osseous metaplasia.

Clinical Relevance- Lipomas are benign lumps of fat that usually grow just under the skin. Osseous metaplasia is one type of ectopic ossification of fibrous connective tissue and may occur secondary to ischemia, necrosis or inflammation in the tumor. To the authors’ knowledge, lipoma with osseous metaplasia have not been reported previously in veterinary medicine. Therefore the present case might be represented an unusual case of mesenchymal tumors with osseous metaplasia.

Key Words- Subcutaneous lipoma, Osseous metaplasia, Cockatiel (Nymphicus hollandicus)

References

Poster Presentation

Valve Replacement in Sheep Model: An Experimental Study

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Objective- Every year, many patients need to have their dysfunctional or diseased valves replaced with a prosthetic valve. Where there is a need, there is a technological solution. Valvular replacement is the most common method of treating advanced dysfunction of cardiac valves. Since the 1950s over 80 valve models have been developed and applied. For patients who need valve replacement, the valve prosthesis can considerably impact end result. One of the main limitations for development of cardiac valves is usage of a suitable animal model to evaluate the implanted valve in systemic blood circulation. Although many animal models are offered, the United States Food and Drug Administration highly recommend examining cardiovascular tissue in sheep. This model is comparable in size to humans, but provides an accelerated model of calcification. Despite the fact that valves need to be tested in the orthotopic position prior to human implantation, many features of tissue engineered valve and vascular replacements including the propensity for aneurysm formation, survival of seeded cells, host immunological response, host cell repopulation, and calcification must be tested in the heterotopic position. Thoracic aorta is the best heterotopic position for evaluating the valves. Probably the most significant advantage of implanting the prosthesis in thoracic aorta is the lack of need to bypass cardiopulmonary circulation; this benefit reduces the morbidity and mortality of the experimental animals as well as reducing the operative procedure time and cost. In this study we focused on implanting procedure of acellular aortic valves in thoracic aorta and the outcomes, as well as some metabolic factors during the sheep anesthesia. We should emphasis that, study the valve characteristics is not the issue here.

Design- Animal experimental study

Animals- This study was undertaken on 5 male sheep with average weight of 45-55 kg.

Procedures- All sheep were off-feed 24 hours before surgery. We used cephalic vein in the thoracic leg for drug and serum intravenous infusion. All the animals received Ringer’s solution (10 mL/kg/h) throughout the surgical procedure and normothermic body condition was achieved by warm heat pad. Anesthesia was initialized by an injection of propofol (5 mg/kg) into the cephalic vein followed by immediate orotracheal intubation. Anesthesia was maintained with 1% to 2% isoflurane. During the operation ventilation was supported with oxygen delivered at a tidal volume of 10 mL/kg, Pmax: 35 cmH2O, Frequency: 12 breath/minute, TI:TE 1:2, PEEP: 2 cmH2O via an anesthetic machine (DragerFabius Plus, SW 3.32a). Cardiopulmonary parameters including heart rates, SPO2, ETCO2, blood pressure were monitored constantly by pulse oxymeter and capnograph and monitoring devices. The animal was placed in the right lateral recumbent position. The access to thoracic aorta was performed through a thoracotomy at the left sixth intercostal space. To expose thoracic aorta, small vessels to other organs were ligated and cut carefully. Systemic anticoagulation was induced with heparin (100 IU/kg) and a synthetic shunt was applied to supply blood to other organs and reduce the chance of paralysis. The valve was implanted using running 5-0 monofilament sutures. The thoracic wall closed. When operation has been accomplished, postoperation procedures and monitoring started, immediately after disconnecting animals from the anesthetic machine, they were moved to critical care unit and connected to ventilator. We used SIMV mode adjusted on O2=30 cmH2O, TV=10-15 ml/kg BW, Timp=1.5-1.7 Sec, F= 10-15 breath/min, PEEP=2-5 cmH2O. Whenever animals started chewing, we extubated them and started taking arterial blood sample for blood gas analysis. For evaluation of metabolic and oxygenation statues we analyzed these factors: pH, PCO2, PO2, BE, tCO2, HCO3-. Monitoring has been done for every hour constantly for 12 hours after surgery.

Results- In our study we saw alkalosis in sheep number 1, 2 and 4 which was back to normal range gradually; this alkalosis was the result of hyperventilation due to using of IPPV mode during anesthesia and SIMV at postoperative period. Low PCO2 in the same time span shows respiratory alkalosis, in sheep 3 and 5 as the result of hemorhaghe during operation we saw metabolic acidosis which came back to normal range by improving Hct. PO2 was normal in most of time just some out of range PO2 had been seen that was lower than normal and it seems to be the result of hypothermia, high pH and low PCO2, SO2 was related to PO2 as expected. tCO2 was mostly normal and BE as well, which show normal metabolic condition. Sodium and potassium in all the sheep was lower than normal and were going back to normal range by time elapsing. There were no procedural deaths and all sheep were alive after a week.

Conclusion and Clinical Relevance- Aortic valve replacement remains the most common procedure among all cardiac valve operations. In our study we evaluate the surgical procedure and outcome and short term blood oxygenation and acid-base statues that could be related with inefficacy of interposed aorta, our entire factors came back to normal range after nearly 12 hours and proved the short term ability of tissue engineered aortic valve used in this study.

Key Words- Valve, Sheep, Model, Aorta
Comparison of the Immunocastration Conjugates Based on GnRH Linked to Carrier Molecules with Surgical Method in Sheep

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Objectives- Gonadotropin-releasing hormone (GnRH) stimulates the pituitary gland to secrete sex hormones. In the present study, we compared different established anti-fertility conjugates of GnRH with whole GnRH-I-KLH (produced in Razi Institute) in a male rat model and then the effects of GnRH-I-KLH was evaluated in sheep compared with castrated ones and control.

Design- Experimental study

Animals- Thirty rats and fifteen rams

Procedures- At first, six-week-old male rats (n=30) were divided into 5 groups and 4 of them immunized intramuscularly and administered in weeks 1, 3, 5 and 7 and the other group was considered as control. Antibody production, hormone levels and testicular diameter changes were assessed, together with sperm movement and effects on organ weights. Secondly, 15 rams were divided into 3 groups (immunized whole GnRH-I-KLH, castrated and control). Then the antibody production, hormone levels, body weight and sperm count were evaluated in all groups.

Results- Similar high levels of antibody secretion were observed in all the immunized groups (rats and sheeps), although whole GnRH-I-KLH produced a sustained level of production for an additional week. Similarly, testosterone levels were significantly (p<0.05) reduced in all immunized groups. There were no significant changes in body weight (rats and sheeps) and testicular diameter of immunized rats when compared with the untreated controls. However, in terms of sperm motility and sperm number in rats, the best anti-fertility effects were observed with IgGnRH-III-TT and GnRH-I-KLH and to a lesser extent whole GnRH-I-KLH and we could not collect any live and normal sperm from immunized sheep.

Conclusion and Clinical Relevance- Whole GnRH-I-KLH satisfactorily met most of our favorite criteria and could be used in immunocastration vaccine production purposes successfully.

Key Words- GnRH, Immunocastration vaccine, Castration, Ram

References

Poster Presentation

Ovine Mandibular Fibroma Molle (Soft Fibroma)

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Case Description- A 1-year-old native male lamb was presented with history of a mass in the base of mandibular area becoming larger over time.

Clinical Findings- On physical examination, the vital signs such as body temperature, heart rate and respiratory rate were within the normal range. Regurgitation, weight loss and depression were evident in the lamb. Further examination revealed that the neoplastic mass has extended into the pharyngeal region and therefore resulted in somewhat interference with swallowing.
Treatment and Outcome- Excisional biopsy was performed and all external parts of the neoplastic mass consisted of a round, firm and encapsulated tissue measuring 6×3×3 cm were excised. For the definitive histopathological diagnosis, the tissue specimen was fixed in 10% neutral buffered formalin, routinely processed in paraffin wax, sectioned in 5 µm thickness, stained with hematoxylin and eosin (H&E) and finally, the stained tissue sections were examined by light microscopy. Based on the histopathological findings, the final diagnosis of fibroma molle (soft fibroma) was made. Unfortunately, a week after surgery, the lamb died due to the inability to swallow and the secondary infection.

Clinical Relevance- The prevalence of tumors in sheep is low and the number of reported fibroma in sheep is very rare. In two surveys extended over several years, one thyroid fibroma and only one vaginal fibroma were found. Fibromas (fibroid tumors or fibroids) are benign mesenchymal tumors consisting of the proliferating fibroblast and fibrous connective tissue. The soft fibroma (fibroma molle) or fibroma with a shaft consists of many loosely connected fibroblastic cells and less fibroid tissue. It mostly appears at the neck, armpits or groin. This report describes the first case of mandibular fibroma in sheep.

Key Words- Fibroma molle, Ovine, Histopathology

References

Poster Presentation

Lameness and Comfort in Dairy Cows: A Preliminary Study on Any Possible Correlation

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Objective- Lameness and comfort are considered as two key items in dairy herd health and production, the interaction between these is a challenging and interesting subject which has taken several researchers and practitioners’ attention. This current study was done for finding any correlation between comfort index and locomotion scoring of the cows.

Design- The present study carried out in a commercial dairy farm with regular lameness and hoof care programs. Cows in 13 barns (920 cows) included in this study. All barns were simple open shed with sand and straw bedding. Locomotion scoring (LS) on a five point scale was done in three consecutive seasons, as sound cows scored 1 and severe lame cows scored 5. Comfort index (CI) calculated base on the number of the cows which were lye in given time in the above mentioned seasons. By using Pearson’s correlation test any correlation between comfort index and locomotion scoring changes were calculated. P values less than 0.05 considered as significant.

Animals- Cows in 13 barns (920 cows) included in this study.

Results- Mean of CI recorded as 0.58, 0.46 and 0.51 in fall, winter and spring respectively. Mean of LS recorded as 0.09, 0.09 and 0.08 in the above mentioned seasons. Although massive changes recorded in the data, but no significant changes was recorded (P<0.05).

Conclusion and Clinical Relevance-These preliminary findings could not find any correlation between CI and LS, however both issues are very multifactorial and need more control studies.

Key Words- Lameness, Comfort, Dairy cow, Locomotion scoring

References

Poster Presentation

Patent Urachus with Omphalophebitis and Omphaloarteritis in Buffalo Calf and its Successful Surgical Rectification

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Case Description- A nine days old buffalo female calf of Neeli Ravi breed was brought to Veterinary Teaching Hospital, Department of Clinical Sciences, College of Veterinary and Animal Sciences, Jhang-Pakistan, with a main complaint that the animal was micturating from umbilicus

Clinical findings- Physically the animal was alert and feeding on milk normally. The body temperature, pulse rate and respiration rate were normal. Hair around the umbilicus were soiled and wet due to influx of urine. The dribbled liquid was confirmed as urine from the laboratory. On the base of clinical examination and laboratory test, it was diagnosed as urachus and was decided to be corrected surgically with prior consent of the owner.

Treatment and Outcome- The Calf was premedicated with injection Diazepam (Valium10®, Roche pharmaceutical-Pakistan) @ 0.15mg/kg B.wt.m and was complimented with general anesthesia by Injection Ketamine HCl (Ketarol, Global Pharma.Pak.) @ 3mg/kg B wt. i.m. Ventral abdominal area was prepared aseptically by removing skin hairs and using surgical scrub. A skin incision was made around the umbilicus followed by sharp dissection to enter into peritoneal cavity. Urachus, inflamed umbilical artery and veins were surgically approached to their bases. Umbilical artery and umbilical vein were ligated and dissected. Urachal sinus was also ligated and transected very close to the apex of bladder. Peritoneal cavity was levaged with Normal Saline. Closure of abdominal wall was made by using different suturing pattern in routine. The calf was impregnated on course of antibiotics for five days followed by antiseptic dressing daily by Tr. Iodine. The animal recovered completely with complete obliteration of urine spillage in span of 10 days.

Clinical Relevance- Patent urachus is a condition in which urachus fails to close shortly after parturition resulting into an abnormal passage of urine from urinary bladder through umbilicus. Several anatomical abnormalities of the urachus may occur in all species and have been reported in cattle calves and foals (Baxter, 1989). The umbilicus in calves consists of the urachus, umbilical vein, and paired umbilical arteries. These latter structures are often referred to as the umbilical remnants. The urachus, umbilical vein, and umbilical arteries normally regress after birth to become a vestigial part of the bladder apex, round ligament of the liver, and lateral ligaments of the bladder respectively. Urachal duct abnormalities have rarely been reported in buffalo calves. The present case of patent urachus seems to be the first ever report in buffalo calf.

Potential complications that may result after umbilical surgery include hernia, ascending infection, peritonitis, cellulites and abscess formation (Mandy et al., 1996). In the present case, no such complications were observed.

References

Poster Presentation

Study of Hoof Lesions can Lead to Lameness
Charolias Cow Breed in a Livestock in the Azerbaijan

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Case Description- The purpose of this study was to investigate the types hoof lesions and causes of injuries in the Charolais cattle breed in a cattle industry in Azerbaijan country in the winter 1392.

Clinical Findings- This study was conducted on 5 hundreds matures beef cows with laminitis that Maximum 3 months passed from the time of their labor. Evaluation of injuries, lameness scoring how to steps and condition of the spine was performed with Sprecher method. Sprecher movement scoring methods (grade 1 to 5) was used to assess laminitis in cows. We used affected cows with a range of locomotion scores from very mild (2,3) to severely lame (4,5). Lesions were evaluated separately in animals.

Treatment and Outcome- Among the 90 cows with subclinal and clinical lameness, the percentage of lameness in the anterior and posterior limb was 54 and 36 percent, respectively. Causing factors was included white line disease with 23 case, sole ulcers with 39 case, digital dermatitis with 58 case, phlegmon with 8 case, hoof wall cracks with 11 case and bone and joint disorders with 6 case.

Clinical Relevance- Cattle hooves on the wet concrete floor is susceptible to physical and infections damage and if suitable modification and common baths not used, this problem will exacerbate.

Key Words- Hoof Lesions, Lameness, Charolias

References
Acute Intestinal Obstruction due to Jejunal Hemorrhage in Dairy Cattle

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Case Description - A Holstein dairy cow with signs of intestinal obstruction was referred to the school of Veterinary Medicine, Shiraz University. The disease was occur suddenly and milk production was reduced to less than a half and the cattle gradually demonstrated the symptoms of abdominal pain including kicking at the abdomen, malaise and abdominal distension.

Clinical Findings - The clinical findings includes anorexia, profound depression, ruminal hypomotility, dehydration, pale mucous membranes, coldness of the extremities, decreased fecal output, melena, scant feces containing either blood or blood clots. The abdomen was moderately distended on the right side, and fluid sound elicited by succession over the right abdomen. Body temperature, heart rate and packed cell volume (PCV) were 39°C, 90/min and 25 respectively. After rectal examination, the rectum was empty and sticky to the touch. The stomach tube was intubated and approximately (6-8 L) of malodorous fluid refluxed through the stomach tube. Percutaneous ultrasonographic examination of the abdomen was revealed the presence of distended loops of small intestines accompanied by hyper echogenic materials and fluids in abdominal cavity.

Treatment and Outcome - In order to confirm our diagnosis, cattle referred to department of surgery and right exploratory laparotomy was done. After incision of the peritoneum, the affected segments of intestine in dark red and dilated with tags of fibrin on the serosal surface were seen. The lumen contained a firm blood clot adherence to the mucosa, and the affected segments of intestine were necrotic, with this condition culling the cattle was suggested.

Clinical Relevance - The jejunal hemorrhage syndrome appears without warning signs and it is frequently fatal. For most farms, the syndrome is sporadic. Although the syndrome targets the jejunum of affected cattle, the most severely affected individuals have more extensive involvement of the small intestine. jejunal hemorrhage is also difficult to distinguish from other causes of intestinal blockage. Typically, cows with jejunal hemorrhage die within the first 6-36 hours of showing clinical signs. Some progress more slowly over a couple of days and others appear to improve over the first 24 hours only to dwindle and do poorly over the following days. Affected cattle may survive for up to 10 days from the initial episode of pain and abnormal manure. These individuals may survive longer because the intestine is not completely blocked but death results due to intestines that gradually lose their integrity and leak contents or bacteria that results in peritonitis. Medical treatment usually includes fluids, anti-inflammatory drugs, antibiotics and Clostridium perfringens C and D antitoxin. Surgery for this condition is no small undertaking, especially in the field because, at the very least, the intestinal manipulation is extensive. Oftentimes, the intestine is opened to remove the blood clot or a segment must be removed with the necessity to reconnect adjacent unaffected segments. Generally, cows that have clots that can be massaged through the intestine do better than those that require either opening or removal of the intestine. Surgical intervention early in the course of the disease is superior. For all affected cows, treatment success is heralded by a return of normal intestinal movement and production of manure.

Key Words - Hemorrhagic jejunal syndrome, Dairy cattle, Intestinal obstruction

References

A Case Report of Mandibular Fracture Stabilization Using Modified Wire Technique in a Calf

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Case Description - A one day old Holstein calf was referred to the Surgery Section of Veterinary Clinic of Urmia University with a history of rostral bilateral mandible fracture extending caudal to the fourth incisor, due to the improper placement of mandibular snare and excessive traction during parturition.

Clinical Findings - Physical examinations showed complete detachment of incisors teeth and a little mandible symphysis attachment remained just caudal to the fourth incisor with mucosal laceration. Radiographs confirmed incisors detachment with no bony structure at the teeth roots.
Treatment and Outcome- Wound was lavaged with diluted bethadine and debris removed. Animal was placed in ventral position under general anesthesia. Using a 18G needle two orthopedic wire s was placed around the root of central incisors beneath mucosal tissue and twisted in rostral mandible. Using interrupted suture patterns, the mucosa sutured. Mucosal color returned to normal immediately after surgery and after 2 month follow wound was healed and calf was able to eat normally.

Clinical Relevance- The recommended method for reduction of fractures extending caudal to fourth incisor is to place wire at the base of the teeth and passing and twisting it around the first cheek teeth or at drilled hole in the interdental space. Wire can slip, break, cut the mucosa or interrupt blood circulation if not placed properly. Method was modified; leaving only the twisted part out, reducing the risk of slippage or breakage, easier placement, less malocclusion, and giving more reliable stabilization.

Key Words- Mandible fracture, Orthopedic wire, Calf

References

Poster Presentation

Claw Lesions following FMD in a Dairy Herd

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Objective- Evaluation claw complications following FMD in a dairy herd.

Animals- This study was done in a dairy farm with 800 milking cows.

Procedures- Foot and Mouth disease occurred in the farm about a month before start of this study. Hoof injuries based on "a comprehensive claw regions" was recorded. Total of 134 in 34 cows treated during the study (the average of 3.94 injuries per cow).

Results- Most injuries were recorded in the zero zone of the hooves (55% of the affected cows). The lowest incidence was recorded in zone 7 (3%). Incidence of the lesions in zones 10, 9, 4, 6 recorded as 47, 41, 38 and 32 percent respectively.

Conclusion and Clinical Relevance- Foot-and-mouth disease (FMD) is a highly contagious and usually acute affliction of cloven-hoofed animals and camelds cause by a virus of family Picornaviridae. In cloven-hoofed livestock the disease is usually characterized by high morbidity, low mortality and the development of vesicles and erosion in the mucosa of the mouth and skin of interdigital spaces and coronary bands.

The high incidence of FMD in productive parts of horny tissues following opportunistic injuries such as interdigitalphlegmon are reasons for high activity of the virus or its products in coronary band and surrounding skin of hooves. Zone 9 lesions at the top of coronary band are one of this type of lesions. In some cases, especially in interdigital it makes more complications that may result to vertical cracks and excessive granulation tissue in zone 12. Complications of FMD lesions in hooves should be controlled otherwise may lead to early culling of the animal. It should be noted that many of lesions and complications may arise long time after onset of the disease.

Key Words- FMD, Hoof, Cow, Interdigital Phlegmon, Digital dermatitis

References

Poster Presentation

Evaluation the Distribution of Injuries in Different Bovine White Line Zones

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Objective- To evaluate the distribution of injuries in different bovine white line zones

Design- The objective of this study was to evaluate the distribution of injuries in different zones of white line in dairy cow.

Animals- The study was conducted in a dairy farm with 900 milking cows.

Procedures- The cows were milked three times a day, kept in free stalls with sand, with 36 litres per day.
average milk production. Hoof care programs including hoof trimming, hoof bathing, Bedding management, Locomotion scoring and nutritional management were done. Data of hoof trimming chute activities recorded by different zones of the hooves (Zones 1-12) by a professional hoof trimmer and veterinarian. Injuries in zones 1-3 recorded as white line injuries and its distribution analyzes in a two year study started at July 2012.

Results- Total of 6271 hoof cares were done during the study, among which 1085 cows (17.72%) showed the incidence of new lameness. Amongst the new lameness cases, 9 cows (0.82%) showed the injury in zone 1, 16 cows (1.47%) in zone 2, and 62 cows in zone 3 (5.71%). The highest incidence of injuries was observed in the medial digit of right forelimb (31 cows) and the lowest was seen in lateral digit of the left forelimb (1 cow). Furthermore, the incidence of injuries were recorded as 28, 23, 17 and 29 for spring, summer, autumn and winter respectively.

Conclusion and Clinical Revelance- Considering the possibility of more weight gaining of cow, higher occurrence of the injuries in zone 3 is not unusual and it has also been emphasized in previous studies. However higher incidence of injuries in forelimb is slightly different from the usual findings about occurrence of digital injuries in dairy cows, although this difference was not statistically significant, it indicates the necessity of paying more attention to forelimbs when studying the incidence of this problem. Besides, higher incidence of this problem is expected after summer and heat stress, while the findings of current study indicate the lower incidence of this problem during autumn.

Key Words- White line zone, Distribution, Bovine

References

Poster Presentation

Comparison of the Host Immune Response to the Footrot Pathogenic Bacteria in Different Genotypes of Katahdin Sheep

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Objective- To compare the host immune response by IgG to *Dichelobacter nodosus* in footrot resistant vs. susceptible genotype for sheep.

Design- Polymorphism at the DQA2 and DQA2-like loci located within the Major Histocompatibility Complex (MHC) was utilized to develop gene marker screening test to identify resistant vs. susceptible genotype for Katahdin ewes (Escayg et al., 1997). Ewes were divided into control and treatment groups. Cultures of *D. nodosus* were inoculated to the inter-digital skin of the treatment group and held there with bandages for 4 days. Blood samples were collected for 5 weeks to measure the immune response.

Animals- Fifty four Katahdin ewes, 18 in each of high resistant footrot gene markers (HR), medium resistance (MR) and low resistance (LR) were selected.

Procedures- The blood collected in a vacutainer (10 ml) from the jugular vein of sheep in both control and treatment groups during footrot pathogenic challenge was centrifuged at 2000 RPM for 5 min to separate the serum. The IgG level (mg/ml) was measured by using an Enzyme-linked immunosorbent assay (ELISA) kit (GenWay, Biotech, Inc.). The data were analyzed by using mixed model procedures of SAS and P < 0.05 was considered as significant.

Results- The IgG level was significantly different (P <0.0001) between control and treatment groups but there was no significant difference (P = 0.26) among different genotypes.

Conclusions and Clinical Relevance- The IgG level remained in the normal range (7.6-40mg/ml) during footrot pathogenic challenge, as hair sheep breeds, such as Katahdin, are reputed to have better disease resistance.

Key Words- Foot rot, Sheep, Immune response

References

Poster Presentation

Epidemiological Study of Lameness Incidence in a Dairy Herd in Isfahan

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Objective- To measure the annual incidence of lameness, type of lesions involved and seasonal incidence

Design- Epidemiological Study
Animals- The study was performed in a dairy herd with 1300 milking cows in Isfahan, Iran.

Procedures- The study was done in one year starting on April 2013. The hoof care program was done in this herd consisting of hoof trimming, locomotion scoring, stall management and other important criteria. Data of the cows in hoof trimming chute recorded by the affected digit, limb, region of the digit and type of lesion by a professional hoof trimmer and veterinarian.

Results- Total of 1300 cows and 4578 referred to hoof trimming chute with the average of 3.5 times for each cow. Eight hundred and ninety three cows recorded as new cases of lameness (68.6%). Incidence of digital dermatitis, interdigital phlegmon, sole ulcer and white line disease recorded as 550, 49, 92 and 62 cases, respectively. Seasonal incidence of lameness recorded as 412 (46.1%), 231 (25.8%), 127 (14.2%) and 123 (13.7%) in spring, summer, autumn and winter, respectively.

Conclusion and Clinical Relevance- Digital dermatitis allocated the most incidence of lameness significantly (p<0.05). Incidence of lameness was significantly more in spring (p<0.05).

Key Words- Lameness, Sole ulcer, White line disease, Digital dermatitis, Interdigital flegmon

References