Oral Presentation

**Subjective Assessment of Analgesic Efficacy of Intra-Articular Tramadol Administration Following Arthroscopic Surgery in Horses**

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**Objective**- To evaluate the analgesic efficacy of intra-articular administration of tramadol in horses following arthroscopic surgery.

**Design**- Experimental study

**Animals**- Ten adult warmblood horses

**Procedures**- Ten horses underwent arthroscopic surgery of hock (8 joints) and fetlock joints (2 joints). Intra-articular tramadol (2 mg/kg) or saline was administered in randomly selected horses (5 in each group; 4 hock and 1 fetlock) under general anesthesia before recovery. Two observers blinded to treatment scored pain independently at 1, 2, 3, 4, 6, 8, 12 and 24 hours after complete recovery following transmission of horses from recovery room to their own boxes and based on a composite measure pain scale (CMPS).

**Results**- Significant difference (P<0.001) was observed between treatments, except at 24 hours post-injection. No significant differences was seen between various times in saline treated group (P=0.09), meanwhile it was considerable in tramadol treated group (P < 0.001), CMPS of the 12 and 24 hours showed significant higher scores in comparison with other times in this group.

**Conclusion and Clinical Relevance**- Analgesic efficacy of intra-articular tramadol administration was demonstrated by significantly reduced pain scores following arthroscopic surgery in horses. So, it can be used as a part of multimodal analgesic protocol, however, more detailed studies are warranted.

**Key Words**- Tramadol, Intra-articular Administration, Arthroscopic Surgery, Horses

**References**


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**Equine Arthroscopic Surgery in Iran: Based on our Clinical Findings**

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**Objective**- This paper reports the outcome of arthroscopic surgery in a subset of horses with fragments in different joints due to OCD or trauma and compares these results with other literatures.

**Design**- Clinical study

**Animals**- Horses with affected joints by OCD or traumatic fragments were treated by arthroscopic surgery during 2012-2014. Obtained data were involved breed, age, gender and activities of horses and also affected joints and location of lesions. Follow up of these cases ranged from 3 months to 2 years and was acquired from their owner and asbdavani.ir.

**Results**- Most affected horses were male included Arabian, mixed and thoroughbred racehorses. The distribution of age ranged from 1 to 4 years old. The carp and stifle were the most frequent joints affected by chip fracture and OCD respectively. Long term follow up were shown the most horses in this study were returned to their athletic performance.

**Conclusion and Clinical Relevance**- An arthroscopic procedure is the best surgery for treatment of OCD lesions, osteochondral fragments and chip fractures.

**Key Words**- OCD, Chip Fracture, Horse, Arthroscopy

**References**


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**Oral Presentation**

**Aortic Aneurysm and Neuritis of Cauda Equina in an Arabian Stallion**

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**Equine Lameness and Surgery**

Proceeding of the 4th International Symposium of Veterinary Surgery (ISVS)

21-23 Oct 2014, Mashhad, Iran
The clinical signs of aortic aneurysm and partial type of neuritis of cauda equina in a stallion for the first time. Abdominal aortic aneurysm is a condition that may be lethal when it is unrecognized. Aneurysms are generally defined by a 50% increase in native vessel diameter and the abdominal aorta between the renal arteries and the iliac bifurcation is the most common extracranial site of aneurysm formation. Aneurysms, which are vascular dilations, develop from weakening of the medial elastic coat of blood vessels. The medial weakness may be primary or caused by a progression of an intima atherosclerotic lesion that has enlarged from hemorrhage, calcification, ulceration, and thrombus formation. The specific causes of aneurysms in large animals are unknown, but trauma (internal or external), sepsis, parasite migration, degenerative vascular disease, atherosclerosis, or aging changes (dilation, elongation, and loss of elasticity of blood vessels) may play a role.

Key Words: Aneurysm, Cauda Equina, Stallion, Aorta

References

Bezoars and Its Role in Small Colon Impaction

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Case Description- In the autumn (2013), a 16 month female mixed Arabian foal with signs of acute abdominal pain and restlessness was referred to the department of clinical sciences. The case has presented signs of partially obstructive acute abdominal syndrome (AAS) characterized by intermittent pain episodes, increased physiological frequencies and decreased abdominal sounds.

Clinical Findings- Animal was clinically examined immediately after arrival to the clinic. Data of the history included information on previous colic diseases (no), previous abdominal surgeries (no), duration of disease (2 days), degree of abdominal pain (moderate colic) and treatment used before arrival [flunixinmeglumin (IV) and ketofen (IM)]. The intensity of abdominal pain (moderate), heart rate (78/min), congested color of conjunctiva, peristalsis (poor), abdominal distension (mild), sweating (neck area) and the results of rectal examination were evaluated during the initial clinical examination. Diagnosis of a small colon impaction was made by rectal palpation. A heavy tube with loss of the normal sacculations and absence of normal formed fecal balls were considered which may indicate the occurrence of an obstruction in proximal part of small colon.
**Treatment and Outcome**: Medical management including nasal intubation, liquid paraffin (1 L) and xylazine hydrochloride (0.5 mg/kg IV) were performed and clinical evaluation was noticed for 3 next hours. During the time the heart rate was elevated and discomfort was noticed. Due to this reason abdominocentesis was performed and serosanguinous fluid was collected which means the presence of moderate bowel inflammation. At this time patients were referred to the surgical department, and fecalith was diagnosed during laparatomy.

**Clinical Relevance**: Generally females may also be at increased risk for small colon lesions, possibly because of hormonal fluctuations affecting gastrointestinal motility. Furthermore horses with diarrhea are 10 times more likely to develop a small colon impaction than horses without diarrhea which was not mentioned by owner in case history. In addition, bezoars are retained concretions of indigestible foreign material that accumulate and conglomerate in the gastrointestinal tract. Bezoars can be composed of virtually any substance including food (fecalith), hair (trichobezoars), and medications (Pharmacobezoars). Fecaliths are a common cause of colic in young horses and causes of the formation are probably similar to those of other impactions and include poor-quality roughage, dental disease and reduced water intake.

**Key Words**: Bezoar, Fecalith, Colic, Small colon, Impaction

**References**

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**Case Description**: A 3-year-old Arabian Stallion with a major gingiva wound at the right rostral part of mandible presented to the veterinary hospital of Shahid Chamran University of Ahvaz.

**Clinical Findings**: After clinical and radiographical assessments, rostral mandibular fracture was determined.

**Treatment and Outcome**: Stabilization of fractured region was achieved via cerclage wire application under general anesthesia and a series of Proceedings include Antibiotic therapy, Anti-inflammatory Drug, Fluid therapy, Nutrition, Supportive treatment, were done as postoperative management. Fixation wires were left in place for 6 weeks. Following up the horse one month later revealed complete fracture healing.

**Clinical Relevance**: The purpose of this study was to give clinical information about rostral mandibular fractures and treatment of these fractures and nutrition protocol in a horse, as this fracture is of the most common type of jaw fracture sustained by young horses. The objectives of the surgical treatment of mandibular fractures were to restore normal occlusion and provide stability that can support fracture healing and allow normal eating and drinking simultaneously. Avulsion fractures of the incisors are easily amenable to repair by tension band wiring alone in the standing or anaesthetised patient. This report described surgical treatment of rostral mandibular fracture with cerclage wire in a male Arabian horse and suggested postoperative management protocol for clinicians.

**Key Words**: Horse, Mandible Fracture, Cerclage Wire, Healing

**References**

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**Poster Presentation**

**Surgical Treatment and a Unique Management of Rostral Mandibular Fracture with Cerclage Wire in a Horse; Clinical Report**

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**Objective**: The present study was conducted in order to evaluation of hematologic, biochemical and endoscopic...
findings in horse following long period use of non-steroid anti inflammatory drugs.

**Design**- The Type of the design is experimental.

**Animals**- 36 heads male Arab horses were divided to 3 groups consisted of 12 horses with an identical feeding, management and activity conditions.

**Procedures**- Physiological serum, 1.1 mg/kg flunixin meglumine and 3.3 mg/kg ketoprofen were injected intra muscular for 10 days respectively for group 1, 2, and 3. On zero time (before injection), days of 2, 4, 6, 8, and 10 bloods sampling was done from the horses’ vena cava and the samples’ serum was separated by centrifuging; then the sera were freeze. Hematologic tests and some of biochemical tests were done on blood samples followed by endoscopic tests on horses for evaluating gastric viscera and gastric ulcers. Hematologic changes such as red and white blood cells count and haematocrit percentage were not meaningful in three groups.

**Results**- In groups two and three the average level of total protein, albumin, creatinine and urea serum levels demonstrated a meaningful increase with increasing of drug using period (P<0.05). The heart troponin serum level in group had a meaningful increasing since 6th and 8th day in groups two and three, respectively (P<0.05); this increasing level was multifold in both groups on 10th day. The average level of CK, ALP, ALT, AST, and GGT enzymes serum concentration in understudying horses had a meaningful increase by increasing the period of the used drug (P<0.05). based on endoscopic findings all horses of group one had healthy gastric viscera after 10th day but 8 horses in group two had healthy gastric viscera, 3 horses suffered from I grade gastric ulcer and one horse suffered from II grade gastric ulcer. 6, 4, 1, 1 horses of the third group had healthy gastric viscera, I grade gastric ulcer, II grade gastric ulcer and III grade gastric ulcer, respectively.

**Conclusion and Clinical Relevance**- The result is that the use of flunixin meglumine in long time causes to increase total protein, albumin, creatinine and urea, heart troponin and CK, ALP, ALT, AST, GGT but there is no meaningful change in hematologic findings and causes to horse gastric viscera injury. Therefore, liver, renal and digestive injuries are some of long term influences of the drugs on horse.

**Key Words**- Horse, FlunixinMeglumine, Ketoprofen, Biochemical, Hematological, Endoscopic

**References**


**Poster Presentation**

**Retrospective Study of Recorded Surgeries in the Horses Referred to Veterinary Hospital of Shahid Chamran University of Ahvaz**

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**Objective**- This Article wants to describe frequency and kinds of recorded surgery in the horse referred to veterinary hospital of Shahid Chamran university of Ahvaz within 6 years (1386-1392).

**Design**- Descriptive Study

**Animals**- 148 horses

**Procedures**- Although the horses referred to veterinary hospital of Shahid Chamran university of Ahvaz were more than these numbers, but only the cases were mentioned which their profile were fully completed. All cases were classified and enumerated in categories include: abscess and hematoma, digestive disorder, orthopedics, reproductive disorder, eye involvement, lameness and integumentary.

**Results**- The results showed that %38 of all cases were lameness while the others included: integumentary %30, abscesses and hematoma %10, orthopedics %10, digestive disorder %3.3, eye involvement %3.3 and reproductive disorder %2.6.

**Conclusion and Clinical Relevance**- This article revealed that the lameness is the most problems occurred with the horses. Lameness is an indication of a structural or functional disorder in one or more limbs or the back that is evident while the horse is standing or at movement. Lameness can be caused by trauma (single
event or repetitive work), congenital or acquired anomalies, developmental defects, infection, metabolic disturbances, circulatory and nervous disorders, or any combination of these. It is important to differentiate between lameness resulting from pain and nonpainful alterations in gait, often referred to as “mechanical lameness,” and lameness resulting from neurologic (nervous system) dysfunction. The diagnosis of lameness requires a detailed knowledge of anatomy, an understanding of kinematics, and an appreciation for geometric design and resultant forces.

Key Words- Horse, Lameness, Surgery, Ahvaz

References


Poster Presentation

Clinical and Radiographical Study of Dental Problems in Horses

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Objectives- Dentistry is an important part of equine health and the horses need regular dental check up and dental care. This study describes the clinical and radiological dental problems and their effect on animal health conditions.

Design- Field study

Animals- Horses of both sexes

Procedures- A survey was conducted on 34 horses of different gender, different breeds and different working conditions. Portable x ray machine was used to obtain radiographic-images of equine skull in left lateral and right lateral positions. A survey sheet was used for each horse to record the history, clinical finding as well as radiographic observations.

Results- The results of this study showed that the dental problems such: wave tooth surface, dental root osteomyelitis, dental fracture, hooked tooth, persistent deciduous tooth, dental abscess, dental cysts were common among the horses in this study. Statistical tests showed a high prevalence of dental diseases and there was a direct relation between age and disorders such as attrition, enamel ridges, and osteoporosis. Also there were a positive relation between gender factor and osteomyelitis. As this problem occur in mare more than stallion.

Conclusion and Clinical Relevance- Since the dental problems are common among the horses a regular dental examination is necessary once or twice a year to detect the dental problems and cure them respectively.

Key Words- Dental Disorder, Radiology, Horse

References


Surgical Resection and Diagnostic Report of a Well Differentiated Squamous Cell Carcinoma in the Third Eyelid of a Horse

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Case Description- A 23-year-old, white, mare, Arab horse presented with a third eyelid mass in its right eye for two month.

Clinical Findings- The mass was reddish cauliflower-like, ulcerated and approximately 4-5 cm in diameter. There were marked lacrimation and bloody discharge. The cornea was opaque. The menace and the palpebral responses were not present. The CBC and biochemical profile of the patient were in normal ranges.

Treatment and Outcome- We opted for the exenteration of the eyeball under general anesthesia using Diazepam and ketamin combination. Alternatively, Ketamin was
used to maintain anesthesia. After establishing a sterile field, the exenteration was performed. The eye, orbital tissues, eyelids, and nictitating membrane were surgically removed. The mass was placed in buffered 10% formalin, processed for light microscopy and sections were stained with H&E.

**Clinical Relevance-** A Well differentiated SCC was diagnosed due to histopathological analysis as islands and nests of pleomorphic epithelial cells and keratin pearls were revealed. Postoperative follow-up was done after 6 months and there was no sign of recurrence or metastasizing. SCC is a locally aggressive tumor originating from squamous epithelium throughout the body including the eye and adnexa. SCC in the third eyelid of horses is rarely reported in literature. Surgical excision is the main therapy for SCC involving the nictitating membrane. If there is evidence of orbital invasion by the neoplasia, orbital exenteration is the treatment of choice. This report described a well differentiated Squamous cell carcinoma in the third eyelid of a horse.

**Key Words-** Squamous Cell Carcinoma, Third Eyelid, Horse

**References**

**Poster Presentation**

**Botox Immobilization Effects on Equine Wound Healing**

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**Objective-** To evaluate the effect of botox chemoimmobilization on equine cutaneous wound healing and it's possible side effects.

**Design-** Experimental study

**Animals-** Five healthy mature donkeys (*Equus asinus*).

**Procedures-** Two 4×4 cm full-thickness skin wounds were created on the thorax skin of both right and left sides. 40 Units Botox (10 Units for each edge) was injected 2 cm apart from the wound’s edges in the cutaneous trunci muscle of randomly selected side. An equal volume of normal saline was injected in the opposite side. Histopathological examination (blindly by a dermathopathologist) and wound size evaluation by Digimizer software were performed on days 5, 10, 20 and 40 following surgery. Biomechanical properties were evaluated on day 40, too.

**Results-** No significant differences were observed for wound size, the number of inflammatory cells and fibroblasts between two groups during the study. Mean number of vessels in Botox group at day 5 following surgery showed a significant increase in comparison with the control group and the epithelialization was significantly higher in the control group than the Botox at day 40 after surgery. Biomechanical properties including yield point, ultimate strength and stiffness depicted no considerable difference between two groups.

**Conclusion and Clinical Relevance-** The results of the present study showed that injection of 40 units of Botox into the muscles subjacent to the full-thickness skin wounds of the donkeys has no considerable effect on the healing process during the first 40 days. Although slight improvements necessitate a more precise and longer study.

**Key Words-** Botox, Chemo-immobilization, Equine, Wound Healing

**References**
Case Description- A 1.5-year-old Arabian colt was presented because of the lack of the right testicle in the scrotum from birth.

Clinical Findings- There was not any testicle in palpation of the right scrotum and inguinal canal. In ultrasonographic evaluations, a well defined and moderate echogenic mass, located in the inguinal canal was seen. Its echogenicity was similar to the normal testicle and its size was nearly 50×25mm.

Treatment and Outcome- After the Induction of anesthesia, the horse positioned in dorsal recumbency. A skin incision of 10 cm was made over the external inguinal ring. The inguinal fascia was separated digitally to expose the superficial inguinal ring. The vaginal tunic within the inguinal canal grasped with a forceps and a small incision made to expose its contents. After emaculation of the spermatic cord, testicle removed and the skin sutured. The mass was placed in 10% formalin and sent to histopathological laboratory.

Histopathological examinations of the retained testis confirmed early Sertoli cell tumor.

Clinical Relevance- Cryptorchidism is failure of one or both testes to be positioned in the scrotum at the time normal for a species. Postpubertal abnormalities can associate with cryptorchidism (e.g. testis tumors). Testicular neoplasms are infrequently reported in association with cryptorchidism (e.g. testis tumors).

Key Words- Cryptorchidism, Ultrasonography, Sertoli Cell Tumor

References

Poster Presentation

Equine Sialolithiasis: A Report on Four Cases

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Case Description- Two stallions (9 and 11 years old) and two mares (8 and 11 years old) with the history of developing two firm moveable masses at the right and left cheek were referred.

Clinical Findings- Animals had no history of difficulty in eating and drinking. No abnormalities were found during general physical and oral examinations. The masses were noted to be firm, freely moveable with no adhesion, non-painful on palpation under the skin overlying the cheek. Radiographs of the skull revealed ovoid mineralized opaque structures. Pre-surgical complete blood counts (CBC) were within normal limits.

Treatment and Outcome- Surgery was performed under general anesthesia. Transoral or percutaneous approaches were selected to surgically remove the sialoliths. The duct was dissected carefully taking care to avoid accompanying structures. The calculi were exposed by an incision on the duct and were removed with the help of an Allis tissue forceps. The ducts were lavaged with Ringer’s solution and their patencies were confirmed by catheterization rostrally. In transoral approaches, the incision was left to heal by second intention. In percutaneously removal cases, the duct was closed by Cushing suture using Vicryl 2−0; the skin was closed with silk 1 suture in a simple interrupted pattern. Subsequent follow-ups were uneventful for six months. A small piece of straw was discovered in the center of two sialoliths after being sawed in half. Penicillin was injected preoperatively and continued for 5 days postoperatively in all cases.

Clinical Relevance- Surgical removal of sialolith is recommended to be performed via an intraoral incision made on the buccal mucosa; however, in case of no accessibility through transoral approach, it can be done percutaneously.

Key Words- Equine, Sialolithiasis

References

Poster Presentation

Occurrence of an Atypical Melanocytic Nevus in a Horse; A Case Report

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Case Description- A Kurdish, grey-colored, 8 yrs old mare with history of presence of a single mass in fetlock region for six years, was referred to a private veterinary clinic in Kermanshah.

Clinical Findings- In clinical examination a tumorous mass measuring 7-10 cm in diameter was found in proximo-lateral region of fetlock joint. Dark black secretions oozing from recently ruptured site of the tumor’s capsule at its ventral aspect was observed.

Treatment and Outcome- A Melanocytic nevus was diagnosed in physical examination and surgical removal of the tumor was elected for treatment. Fetlock joint is considered as an atypical region for occurring melanocytic nevi in horse. During surgery the tumor had not any adhesions to the underneath tissues such as tendons or fetlock joint capsule and en-block removal of the mass was performed. The surgical site was healed without any complications. Histopathological examination of the mass revealed that the tumor occurred relatively superficially at the epidermal-dermal junction showing nests of relatively large to moderate pleomorphic cells with variable amounts of cytoplasmic pigmentation and occasional mitoses.

Clinical Relevance- More than 70% of melanocytoma occur in horses less than 6 years of age and most of these tumors occurred in atypical locations. Of 28 melanocytic nevi, only one became invasive, the rest exhibited benign behavior. Although conservative management is reasonable in the majority of cases, more aggressive treatment, including early removal of smaller tumors, may decrease the risk of melanomatosis or metastases as the animal ages.

Key Words- Fetlock, Melanocytic Nevi, Invasive, Removal

References
Parotid Sialolithiasis in a Horse: a Case Report

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Case Description- Presented here is a case report of a 15-years-old, mixed-bred mare with a firm movable mass near the rostral edge of the right facial crest, which diagnosed as an asymptomatic sialolith in the right parotid duct.

Clinical Findings- General physical examination revealed no abnormality. The mass was firm, freely moveable and nonpainful on palpation.

Treatment and Outcome- An oval white sialolith measuring 50x30 mm and weighing 70 gm was removed with intraoral approach.

Clinical Relevance- Sialolithiasis accounts for the most etiology of salivary gland obstruction which is rarely recognized but when they occur, they tend to affect older horses and the parotid duct is most commonly involved.

Key Words- Parotid Salivary Gland, Sialolithiasis, Calculi

References

Successful Management of Severe Open Metacarpophalangeal Joint Dorsal Luxation in a Darreh-Shuri Stallion

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Case Description- A 3-year-old Darreh-Shuri stallion was presented with left forelimb open dorsal fetlock luxation immediately following being hit by car.

Clinical Findings- The horse was in a non-weight bearing position on the affected limb with instability and swelling. General physical examination revealed normal vital parameters and no special concurrent abnormality. Radiographic examination in lateromedial and dorsopalmar views of the affected limb showed no sign of fracture.

Treatment and Outcome- Under general anesthesia, the lesion was prepared aseptically and the joint space was lavaged copiously to remove all debris. Considering the healthy adjacent structures, manual pressure was exerted on the distal part of the metacarpus and proximal part of the first phalanx to reduce the luxation. Skin lesion was sutured. Intra-articular amikacin 500 mg was administered and repeated on the third and fifth days postoperatively. A palmar PVC splint was placed following adequate padding from the carpus to the toe. The higher and lower third of the splint was casted and the middle part left open to manage the joint and skin lesion. Intra-articular sodium hyaluronate 20 mg was administered one week later. After cast removal following five weeks, the stallion revealed no sign of lameness. The owner was instructed to keep the stallion confined to a stall for at least one more months with a restricted daily short hand walk.

Clinical Relevance- Special casting methods for immobilization of a limb with an open joint luxation can tremendously improve the healing process.

Key Words- Metacarpophalangeal Joint, Open luxation, Stallion

References

What is your Diagnosis? Severe Cervical Scoliosis in a Darreh-Shuri Filly

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Case Description- A 13 month-old young female horse with a severe cervical scoliosis.

Clinical Findings- Although the filly had a history of being fallen in a pit three months ago, acute onset of the scoliosis had been started 1.5 month later. Thereafter, slight neck swelling had gradually turned into 60\(^\circ\) rotation of the head and neck. The animal was not imbalanced while waking and eating, but was not able to
Clinical examinations revealed normal vital signs and no special concurrent abnormality was noticed. Complete blood count measures were within normal limit, too. C-shaped severe cervical curvature and scoliosis toward right side of the body was remarkable that could be manually straightened temporarily without pain of the neck on the convex side. Cervical dorsoventral and lateral radiographs depicted chronic C4-C5 fusion and severe scoliosis between C4-C6. A tentative diagnosis of cervical vertebrae fracture or *Parelaphostrongylus tenuis* migration through the dorsal gray column of the affected side was made.

**Treatment and Outcome** - Ivermectin, vitamin E and IM injections of isoflupredone acetate 15 mg were administered. Finally, the euthanasia was considered because of no improvement after two months.

**Clinical Relevance** - No horses have been reported to recover normal functions following infestation by *Parelaphostrongylus tenuis* because of the severe necrosis of the affected segments of spinal dorsal gray column or chronic irreversible cervical vertebrae severe injuries.

**Key Words** - Cervical Scoliosis, Filly

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**Diagnosis and Surgical Removal of a Granulosa-theca Cell Tumor by Use of the Flank Approach in a Standing Mare**

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**Case Description** - A 5-year-old Arabian mare with 400 kg body weight was presented with 3-month history of gradual changes in behavior, characterized as stallion-
like, including aggressiveness towards people and other horses in late estrus.

**Clinical Findings**- No abnormalities were noted on physical examination. However, on palpation per rectum, the left ovary was identified as a smooth, slightly lobulated mass, > 10cm in diameter, located ventrally to the left of the midline. The right ovary was small and inactive. Transrectal ultrasonographic examination revealed a mass composed of multiple, irregularly shaped cystic areas with a honeycomb appearance. The left ovary was confirmed to be small and inactive. Based on the history of aggressive male-like behavior, the findings made by transrectal palpation and ultrasonography and testosterone levels 2/6 mmol/L, a diagnosis of granulosa theca cell tumor (GTCT) was made. Surgical removal of the affected ovary was chosen as the treatment of choice.

**Treatment and Outcome**- The mare was prepared for surgery by placement of a 14-gauge IV catheter in the left jugular vein. First, acepromazine with 0.05 mg/kg dosage was administrated to tranquilize the mare. After 20 minutes, neuroleptanalgesia was induced by administering xylazine (1 mg/kg BW), and morphine (0.3 mg/kg BW) intravenously. The area of the left paralumbar fossa was anesthetized with an inverted L block, using 60 mL 1% lidocaine hydrochloride with the horse standing. A 20-cm longitudinal skin incision was made in the left paralumbar fossa and ovarian tumor was removed after three transfixation ligatures of ovarian pedicle. Dimension of this ovarian tumor was 9.5 × 11.5 cm. The mare was treated with penicillin-streptomycin (15000 IU/kg BW), IM, q24h for 7 days and ketoprofen (2 mg/kg BW), IM, q24h for 3 days postoperatively.

**Clinical Relevance**- Ovarian tumors have been reported to have a frequency as high as 5.6% of all neoplasms in horses. Granulosa theca cell tumors are the most common and result in increased concentrations of plasma hormones such as testosterone, estrogen, progesterone, and inhibin.

**Key Words**- Ovariectomy, Granulosa Cell Tumor, Standing Mare, Flank Approach

**References**


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**Splint Surgery in Horses Front Leg**

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**Case Description**- A mix breed 7 years old stallion that was used as a jumper was referred to the Teaching hospital of Shiraz school Veterinary Medicine with a history of lameness in his right forelimb.

**Clinical Findings**- During the inspection lateral splint in right forelimb showed problem due to its fracture which was corroborated with its radiograph. So it had been clear that the lameness was because of right lateral splints fracture. The swelling and heat was noticeable over a large area.

**Treatment and Outcome**- Once the inflammation and active bony proliferation has subsided with ice pack and anti-inflammatory drugs, this case required surgery to remove the bony swelling or to remove a portion of the splint bone. In lateral recumbency under general anesthesia, a longitudinal incision was made caudolateral on the metacarpal region. At first, the periosteum was ripped and then lateral splint had been removed. In order to prevent the hemorrhage applied direct pressure was used in the points of splint attachments to the cannon. Periosteum was sutured with absorbable suture. After that subcutaneous and skin was sutured. For supporting the limb a bandage was applied. Five days antibiotics and anti inflammatory agents were used after operation. No complication was reported after some weeks.

**Clinical Relevance**- Splints commonly occur in 2- to 3-year old horses, occasionally in horses 4 years of age and older, and are usually associated with training and subsequent injury. Splints usually occur in the medial (inside) forelimb splint, about 3 inches below the carpus (knee), although they can occur in the lateral (outside) splint of the front or rear legs. The disadvantages of surgery are the risks and expense of performing surgery and that a bony reaction might recur after surgery. The horse is usually lame on affected leg, and this is exacerbated on hard ground. Therefore fractures of the splint bone due to the stresses exerted during fast exercise become more common with age.

**Key Words**- Splint, FX, Ice Pack, Surgery
**Clinical Findings-** During close clinical examination, in one of the cases (45-day-old) the hernia was diagnosed bilateral and in another one (5-day-old), unilateral, with a contralateral large external inguinal ring. The hernial contents in both cases were diagnosed as intestinal loops, protruded through a rent in the parietal vaginal tunic at the level of the inguinal canal. In both cases the vital signs were normal.

**Treatment and Outcome-** Under general inhalation anesthesia, the external inguinal rings were approached, the prolapsed loops were replaced into the abdomen, and the superficial inguinal ring partially closed. Both the animal recovered with no complication.

**Clinical Relevance-** A hernia is one of many afflictions that can affect foals during birth. There are two types of hernia (umbilical, inguinal), which might happen in new-born foals. They are caused by some type of defect in the wall of the abdomen, either affecting the umbilical area or the inguinal canal - a passage in the anterior abdominal wall. This is a congenital defect, one that should be repaired as soon as possible, as it poses a host of health problems for the horse. The congenital inguinal hernia in Arabian new-born colt is not common and rarely be reported. Since both the cases were from the same area, the possible hereditary origin of the condition should be considered.

**Key Words-** Congenital, Bilateral, Inguinal Hernia, Arabian Colt

**References**

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### Reference for Oxidative Stress Parameters in Turkmen Horses during Training and Competition

**Objective-** The purpose of this study was to evaluate performance of Turkmen horses during competition.

**Design-** Fifteen Turkmen horses were used in the present study. Blood collection was performed for analysis of Oxidative stress parameters.

**Animals-** Turkmen horse is one of the prominent breeds in the world. Stamina and the ability to survive in tough environmental condition is a distinctive feature of this breed. These abilities make this horse to be considered as a sport horse.

**Procedures-** Blood samples collected 24 hours before competition, immediately after competition, 6h, 24h and 48h after competition. Oxidative stress parameters that were measured include MDA, Troponin, Tiol group, Iron, Zinc, Copper, total bilirubin and Uric Acid.

**Results-** No significant changes (P > 0.05) in the levels of MDA, Troponin, Tiol group, Iron, Zinc, Copper and total bilirubin were observed but a significant alteration observed in the levels of iron and uric acid.

**Conclusion and Clinical Relevance-** Based on these observations, we conclude that reactive oxygen species (ROS) formation during exercise evokes specific adaptations, such as increased antioxidant/oxidative damage-repairing enzyme activity, increased resistance to oxidative stress and lower levels of oxidative damage. Turkmen horses have appropriate adoptability during short distance racing and the stress of a fast race has disappeared well.

**Key Words-** Turkmen horse, Sports profile, Oxidative stress

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### Reference for Equine Lameness and Surgery

**Poster Presentation**

**Diagnosis and Surgical Treatment of Congenital Inguinal Hernia in two New-born Arabian Colt in Yazd, Iran**

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**Case Description-** Over a two week period, 2 new-born (5-day and 45-day-old) Arabian colts were referred to the Department of Surgery, Veterinary Teaching Hospital of Faculty of Veterinary Medicine, ShahidBahunar University of kerman, with large mass in inguinal area, suspected to inguinal hernia.

**Clinical Findings-** During close clinical examination, in one of the cases (45-day-old) the hernia was diagnosed bilateral and in another one (5-day-old), unilateral, with a contralateral large external inguinal ring. The hernial contents in both cases were diagnosed as intestinal loops, protruded through a rent in the parietal vaginal tunic at the level of the inguinal canal. In both cases the vital signs were normal.

**Treatment and Outcome-** Under general inhalation anesthesia, the external inguinal rings were approached, the prolapsed loops were replaced into the abdomen, and the superficial inguinal ring partially closed. Both the animal recovered with no complication.

**Conclusion and Clinical Relevance-** A hernia is one of many afflictions that can affect foals during birth. There are two types of hernia (umbilical, inguinal), which might happen in new-born foals. They are caused by some type of defect in the wall of the abdomen, either affecting the umbilical area or the inguinal canal - a passage in the anterior abdominal wall. This is a congenital defect, one that should be repaired as soon as possible, as it poses a host of health problems for the horse. The congenital inguinal hernia in Arabian new-born colt is not common and rarely be reported. Since both the cases were from the same area, the possible hereditary origin of the condition should be considered.

**Key Words-** Congenital, Bilateral, Inguinal Hernia, Arabian Colt

**References**
Equine Lameness and Surgery

References

Poster Presentation

First Report of Equine Juvenile Mandibular Ossifying Fibroma (EJMOF) in a Filly Treated with Rostral Mandibulectomy in Iran

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Case Description- Juvenile ossifying fibroma is a well-recognized but uncommon condition affecting young horses. A 11-month-old 150 kg Kurdish filly with a 7 x 8-cm protruding sub-gingival and ulcerated mass involving the rostral mandible was admitted to the veterinary faculty hospital of Urmia University for Evaluation. The mass was first noticed 7 months prior to admission. It was thought to be due to bee sting during grazing in the pasture.

Clinical Findings- The filly appeared healthy except for some degree of poor body condition. Fine needle aspiration showed some bloody fluids. Radiographic examination revealed a fairly circumscribed, approximately 6-cm soft-tissue dense mass with mottled bony density involving the mandibular symphysis. There were osteolytic changes extending to the roots of all incisors and evidence of cortical disruption of the rostral mandible. Routine clinical pathology data were within normal limits.

Treatment and Outcome- A bilateral rostral mandibulectomy with primary gingival closure was done under general inhalation anesthesia which proceeded through tracheostomy intubation. The histopathologic diagnosis of the tumor was ossifying fibroma in which there were irregular spicules and trabecular of bones lined by osteoblasts and well vascularized fibro-osseous stroma. There was no detectable recurrence in this horse after 3 months.

Clinical Relevance- Local recurrence is probable if the mass is not totally excised. Rostral mandibulectomy affords a simple and effective technique of treating EJMOF tumors of the rostral portion of the mandible in horses.

Key Words- Ossifying fibroma, Horses, Mandibular neoplasms, Rostral mandibulectomy

References
stallion was treated for 7 and 5 days with broad-spectrum antibiotic and NSAID, respectively.

**Clinical Relevance-** In adult horses, inguinal rupture is primarily traumatic in origin. Although an acute increase in testicular size is suggestive inguinal herniation, it is also suggestive of torsion of the spermatic cord, orchitis or thrombosis of the testicular vasculature.

**Key Words-** Bilateral Orchitis, Scrotal Herniation, Stallion

**References**

**Poster Presentation**

**Surgical Repair of Radial Salter Harris Type III in a Horse**

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**Case Description-** A one year old cross breed horse with 5 days history of lameness in fornt limb and swelling around carp after stumbling referred to veterinary hospital. After physical examination, radiography revealed salter hariss type III in distal part of right radius. Temporary split applied after pain management and general clinical pre operative examinations.

**Treatment and Outcome-** After routine preparation forsever, Xylazine and diazepam used as premedication and induction of anesthesia performed by intravenous ketamine injection. Maintenance of anesthesia achieved by isoflurane inhalation. Rigid internal fixation accomplished by loading an eight holes 4.5 DCP plate n medial surface of radius. Skin and subcutaneous tissue sutured in two layers and supportive cast applied to the limb for 3 weeks. Client informed about five to six month next operation to remove plate, but plate removal, lateral deviation less than 30° determined after plate removal radiography.

**Disclaimer:** This report demonstrated an osteochondral fragmentation of distal ridge of metacarpal bone with subsequent sequestrum formation and successful surgical removal of the lesion. Post-operative reevaluation revealed no specific complication with return of the limb to full function.

**Key Words-** Osteochondral fragment, Sagittal ridge of the third metacarpal bone, Foal

**References**

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**Key Words-** Osteochondral fragment, Sagittal ridge of the third metacarpal bone, Foal

**References**

**Poster Presentation**

**Arthritis due to Detached Fragment of the Sagittal Ridge of the third Metacarpal Bone in a Foal: A Case Report**

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**Case Description-** A 45-days old foal with history of trauma and left forelimb lameness was referred to Veterinary Hospital of Shiraz University. Local swelling was evident on fetlock region of the affected limb.

**Clinical Findings-** Swelling, inflammation and pain was revealed on physical examination of the fetlock joint. Radiographic findings showed osteochondral fragmentation of distal edge of the sagittal ridge of the third metacarpal bone as a joint mouse in the joint space.

**Treatment and Outcome-** The animal was treated by conservative therapy including antibiotics and anti inflammatory drugs and the limb was supported with external cooptation for two weeks. Radiographic re-evaluation of the lesion demonstrated a sequestrum in the joint space. The animal was prepared for aseptic surgery under general anesthesia. Arthroscopy of the fetlock joint was performed through the cranialateral approach and the fragments were curetted. The hypertrophied synovium was excised and the joint cavity was flushed with aggressive fluid followed by amikacin injection into the joint.

**Clinical Relevance-** Osteochondrosis of the sagittal ridge of third metacarpal bone is usually diagnosed in young horses and occurs with variable radiographic expression.
Clinical Relevance- Right carpal bow leg appearance showed in this case could be contributed to physical injury as other related retrospective studies described poor prognosis for athletic activity.

Key Words - Radius fracture, Salter harris type III, Equine

References

Poster Presentation

Incidences of Rectal Tears in Colicky Horses Maltreated by their Owners

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Case Description- Several rectal tears in horses were referred to the school of Veterinary Medicine, Shiraz University. These poor horses were suffer from colic and were rectaled by their owners in other to empty the rectum or maltreated doing enema with improper tools such as water hose or tankard. Other clinical signs were strain to defecate and signs of colic.

Clinical Findings- Elevated heart and respiratory rates, sweating, colic, increased capillary refill time and discolored mucus membranes, which indicated septic peritonitis. Hematological and serum biochemical changes in these horses are include leukopenia and neutropenia, increased band cell count, elevated hematocrit and total protein concentration initially, after which serum total protein concentration can decline as protein leaks into the abdomen. Without any history, these rectal tears were difficult to diagnosis, the presence of fresh blood on the feces and rectal sleeve following rectal examination were the first signs.

Treatment and Outcome- Otherwise of aggressive fluid and antibiotic therapy, unfortunately death occurred in all of these cases because of septic shock. Necropsy findings revealed that one of these cases was grade 3 and the others were grade 4 rectal tears, all of them had diffuse peritonitis.

Clinical Relevance- Rectal tears are serious injuries in the horse, most commonly occurring as a result of rectal examination by a veterinarian. Most rectal tears are located dorsally, 25-30 cm from the anus at the junction of the rectum and the small colon. Rectal tears may occur in horses of all ages although nervous or young horses are more often affected. Rectal tears are classified in a four-grade system according to the layers of the bowel wall involved. If a rectal tear is suspected, it is important to establish its extent as this dictates the treatment required and the prognosis for recovery. The horse should be sedated before further examination and an epidural should be performed in order to prevent straining. Careful rectal examination and endoscopy should be performed to locate and assess the tear in order to select appropriate management and treatment. Grade 1 and 2 tears are best managed conservatively with a combination of NSAD drugs, broad-spectrum antibiotics and laxatives such as mineral oil. A moist diet such as grass should be provided in order to aid defecation. The horse should be closely monitored for signs of colic, haematochezia, dyschezia, pyrexia and tenesmus. Repeated rectal examination should be avoided unless unavoidable. Grade 3 and 4 tears are acute, life-threatening emergencies and should be referred to a surgical facility. At the referral facility, abdominocentesis is performed to check for peritonitis. A number of surgical techniques have been described for the repair of Grade 3 and Grade 4 tears. These include suturing the tear closed via a rectal or ventral midline approach, or the use of a fecal diversion technique such as temporary colostomy to eliminate the passage of faces through the rectum. The prognosis for rectal tears depends on the size, location and grade of the tear and the length of time between occurrence and treatment. Grade 1 and Grade 2 tears generally have a good prognosis and usually heal without complication. Grade 3 and Grade 4 tears are associated with a poor prognosis. If peritonitis is present the prognosis is grave and euthanasia is usually required.

Key Words - Rectal Tears, Horse, Peritonitis

References
Surgical Repair of Lateral Patella Luxation in Foals: Report of Two Cases

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Case Description—Two foals with lateral patella luxation were referred to the Veterinary Clinic of Ferdowsi University of Mashhad. Case 1 was an 8-month-old male KWPN foal and the second case was a 2-day-old female Arabian foal.

Clinical Findings—The KWPN foal presented with severe lameness at walk due to lateral patella luxation in both hind limbs. The second case was unable to stand after birth as a result of complete bilateral patella luxation. In both patients luxation of the patellas were confirmed on physical examinations and radiologic assessment.

Treatment and Outcome—For correction of patella luxation in both cases, the surgical technique includes lateral release of patella was performed by transection of the lateral patellar structures and stabilization of the patella by imbrication method. 2 weeks after surgery in KWPN foal, the lameness was decreased significantly and 4 months after operation horse owner reported that the foal walked normally. The Arabian foal was able to stand Short periods after surgery, 2 months post-surgical follow up, showed the foal bears weight on hind limbs.

Clinical Relevance—It was concluded that patella luxation as a congenital cause of lameness in foals can correct by surgical techniques successfully.

Key Words—Lateral Patella Luxation, Foal, Surgical Repair

References
**Oral Presentation**

### Some Radiological Measurements from the Hind Feet of Sound Dareh-shori Horses with Relevance to Laminitis and Founder

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**Objective:** In order to measure the relevant parameters with laminitis and founder in hind feet of healthy Dareh shori horses.

**Design:** Experimental study

**Animals:** 10 apparently healthy Dareh shori horses.

**Procedures:** After cleaning and washing the horses hooves, metal marker placement, the hooves were marked by the contrast, then hand-made block placed under the following limb, in order to take weight off on wooden block the other limb was elevated by someone else. all these exercise were accurated to get hindlimb placed vertically on the wooden block. lateral view radiograph were made to get the following measurements.

1. The distance between the top up the dorsal wall wire marker and the proximal limit of the extensor process of the distal phalanx (D-founder).
2. The thickness of hoof wall and under beneath soft tissues in place: proximal (STTp), Middle (STTM), Distal (STTD) and length of palmarcortical of p3 (pcl). 3. The thicknesses of hoof wall in the percent of length of palmarcortical of third phalang

4. Angles include: Hoof axis, P3 axis, the difference between p3 Axis and hoof Axis (H angle) p2 axis, the difference between p2 angle and p3 (R angle).

**Results:** The following values have been acquired: Founder Distance=5/99±2/65mm; Hoof wall thickness (STTP=16/75±2/12mm,STTM=16/42±2/43mm, STTD=16/21±3/85mm);PCL=59/9±5/8mm; STTP/PCL%=28/9±3/75mm;STTM/PCL%=27/51±4/24mm; STTD/PCL%=27/14±6/57mm.


**Conclusion and Clinical Relevance:** Measurements of this study may differ with those reported from other breeds, so it can be used in the future as reference values for diagnosis of laminitis and founder in hind feet of Dareh shori horses.

**Key Words:** Radiological measurements, Hind feet, Dareh Shori horses, Laminitis

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### References


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**Oral Presentation**

### Forelimb Joint Lesions of the Racehorses Referred to Veterinary Teaching Hospital, Ferdowsi University: Radiographic Evaluation

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**Objective:** To describe of occurrence of the forelimb joint lesions in racehorses by radiographic imaging

**Design:** Case series study

**Animals:** 310 racehorses (Turkmen, Thoroughbred, Arabian and mixed breed) were referred to Veterinary Teaching Hospital, Ferdowsi University for soundness evaluation due to poor athletic performance during the period from 2010 to 2014.

**Procedures:** After clinical and hematological examinations, radiographic evaluations of forelimb joints were performed in clinically suspected racehorses. Type and location of the lesions were determined radiographically.

**Results:** Abnormal radiographic findings of the forelimb joints were described in 100 joints related to 65 horses. Of these 65 horses, 33 (50.76%) were female and 32 (49.23%) were male. The age distribution was from 24 days to 24 years old. In this study, 2-4 year old horses were major of population (80.92%). Radiologic evaluations were shown joint lesions in the carpal joints (53%), the fetlock joints (31%) and the other forelimb joints (6%). Fractures (56.45%), DJD (29.83%), OCD (9.67%) and arthritis (4.03%) were the common lesions of the affected joints, respectively. In the carpus, fractures tended to occurred at higher rates in the intermediate carpal (33.33%) and radiocarpal (31.48%) bones than distal end of radius (16.66%) and third carpal bone (16.66%).