

Equine colic referred to University Veterinary hospital, Universiti Putra Malaysia from 2005-2011

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Abstract: *Equine colic has been a devastating endemic disease condition confronted by horse owners in Malaysia. However, little attention is paid to the management aspect of these horses and the prevalence of colic. Therefore, this study was conducted to determine the relationship between colic cases and horse usages, gender, breed, management system of establishments and the status of horses. Data were obtained from the University Veterinary Hospital, Universiti Putra Malaysia particularly from the equine and pathology units from January 2005 to December, 2011. Of the 92 number of horses studied for colic cases referred to the hospital, 40% were both stallions and mares respectively while 20% were geldings. 42% were used for patrolling, 18% for multipurpose, 14% were used for endurance followed by 10% for riding school, while 7% were used for both leisure ride and polo respectively and the least 2% were used for dressage. Three types of colic disease conditions were diagnosed and treated and these include tympanic (66%), spasmodic (23%) and impaction (11%) colic. Thus, these findings could assist veterinarians engrossed in the diagnosis and treatment of the conditions to put in place laudable measures in the prevention of the disease conditions.*

Keywords: *Colic, prevalence, University Veterinary Hospital, 2005 to 2011,*

I. Introduction

Colic is defined as the abdominal pain caused by distension of viscus, tension on the roof of the mesentery, ischemia or inflammation of the gastrointestinal tract [1]. Colic can be classified generally into three forms, namely tympanitic, spasmodic, and impaction. Horses that have had a previous episode of colic are three times more likely to have a second colic episode compared to a horse that has never had colic [2, 3]. The number of colic cases fluctuates between establishments from 0 up to 30 cases per 100 horses [4, 5, 6]. Many studies on colic have indicated a prevalence of 2 to 10% in respect of spasmodic and impactions colic and in some horse populations this is escalated by some colic risk factors [7, 8]. Endurance horses are mostly afflicted by colic [9, 10, 11], and the common cause of death in horses with colic are attributed to impactions and infarctions [12]. The amount of risk is indicated as the odds of colic to escalate in a group of horses exposed to a specific factor in contrast to the colic incidence in a group that is not exposed to that factor [3]. This disease condition is believed to be as a result of poor management, age, breed, change in diet, consumption of coastal grass hay, latest change in stabling, prior abdominal surgery, and farm compactness of less than 0.5 horses per acre is associated with persistent chronic colic [13], rotten feed ingestion of non-feed materials, stones, sticks, twine, wood splinters, fine grains, poisons, twisted intestines, strangulation and incarceration [14, 15]. There were relationship between horse usage, breeds, status, management systems in establishments and the three forms of colic. Therefore, this study focuses on the prevalence of colic cases presented to the Equine and Postmortem Units of University Veterinary Hospital (UVH), Universiti Putra Malaysia (UPM) between January 2005 and December, 2011 to find out the major causes of this disease conditions and advice horse owners and veterinarians on the findings of the study so that drastic control and preventive measures are to be taken against the disease condition.

II. Materials And Methods

Medical records were obtained from the Equine and Postmortem Units of UVH, UPM. Colic cases from January 2005 to December, 2011 were examined to investigate the common causes of colic presented to the hospital. Postmortem results were searched for horses that died or euthanized due to colic and the subsequent classification of colic was made based on the postmortem results [16]. Data extracted from medical records were usages, gender, breed, the status of the horses and management system. Descriptive statistic using histograms expressed in percentage and graph builders were used for the analysis of the data to show the relationship of the various colic forms with the other parameters with JMP9 SAS.

III. Results

From the year 2005 to 2011, the total number of horses with various types of colic that were presented to the UVH, UPM was 92 horses. Among these cases, stallions and mares were 40% respectively, while geldings were 20% (Fig. 1). Among the breeds, Thoroughbreds were the most affected (78%) followed by Arabian (18%), Polo Pony and Warm blood were 2% and 1% respectively (Fig. 2). As shown in Fig. 3, the usage of horses ranged from horses used for patrolling (42%), endurance (14%), multipurpose (18%), riding school (10%), dressage (2%), polo and leisure rides (7%) respectively. Three types of colic disease conditions that were diagnosed and treated include tympanic (66%), spasmodic (23%) and impaction colic (11%) as presented in Fig. 4. Fig. 5 showed the distribution of colic cases in different horse establishments. About 62% of the total cases were cured while most of the deaths occur in horses that had repeated colic in their life time 38% (Fig. 6). Fig. 7 showed the relationship between gender and colic types, Fig. 8 presented the relationship between breeds and colic types, Fig. 9 also showed the relationship between horse usage and colic types, Fig. 10 showed the relationship between establishments and colic types while, Fig. 11 showed the relationship between status of horses and the colic types.

IV. Discussion

Colic is the most deleterious disease in horses and one of the most recurrent disorders encountered by large animal veterinarians. The present study recorded 20% of colic cases for geldings while, both mares and stallions had 40% of colic cases respectively. This finding agrees with the study conducted by [3], and this could possibly be due to management problems or as a result of inguinal hernia in stallions and large colon displacement and volvulus in periparturient mares [3]. In the present study, Thoroughbred were the most afflicted breed of horse by colic with 78%, followed by Arabs with 18%, these findings is in consonance with the findings of [17, 18, 4, 3], and then Polo Pony had 2% while the least with only 1% of colic affliction was the Warm blood. These differences in the colic incidence could be due to genetic dispositions within breeds though rare [3], and perhaps due to their different usages and farm management practice [19, 20]. In the present study, horses used for patrol, multipurpose, endurance and riding school were the most affected by colic. These high rate of colic incidence in this group of horses could be attributed to the activities they were engrossed in [9, 10, 11]. While, leisure, polo and dressage were the less afflicted by colic in this study, this could be associated with less rigors attended in their usage and of the good management aspect. This study also found that those horses exposed to demanding tasks were more prone to gastric problems than those used for lighter tasks and this was consistent with the findings of [21]. The present study recorded high incident rate of tympanic (66%), spasmodic (23%) and impactions (11%) respectively for the colic types and forms. These various forms of colic reported to the veterinary hospital were consistent with the study of [8]. In the present study the distribution of colic cases in different horse establishments varies. Although all of these horses were kept in proper stables, the management system varied between different horse establishments. More than half of the horses under the present study (62%) showed uncomplicated signs of the colic and were treated by routine methods of treatment or even by no medications. Medication and changing of diet was carried out for these cases and all of them were treated successfully as indicated in the study conducted by [15].

V.

Figure 1. Presented the distribution of horse gender with colic



Figures

Figure 2. Presented the distribution of breeds of horses with colic

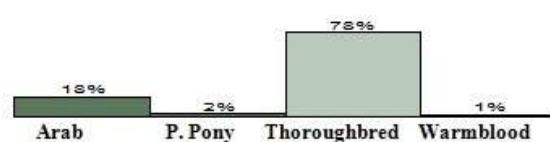


Figure 3. Presented the distribution of horse usage with colic

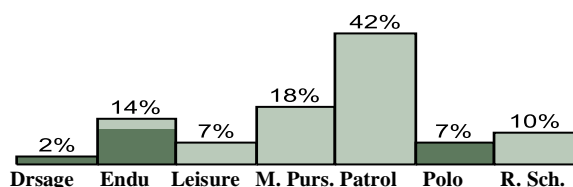
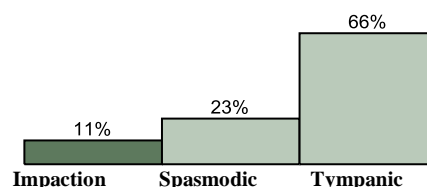


Figure 4. Presented the distribution of colic types



Drsage = dressage, Endu = endurance, M. Purs = Multipurpose, R. Sch = Riding School.

Figure 5. Presented the distribution of horse establishment with colic

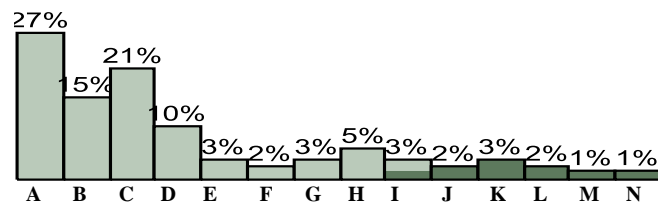
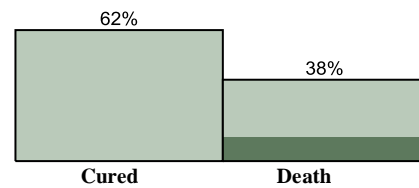


Figure 6. Presented the distribution of horse Status with colic



In the present study, the relationship between gender and colic types indicated that stallions were frequently affected by tympanic type of colic, mares were mostly afflicted by spasmodic and tympanic colic while, geldings were susceptible to impaction and spasmodic colic. The present study indicated the association of breed with colic forms where the Warm blood were predominantly affected by impaction form of colic. The Thoroughbreds were susceptible to spasmodic and tympanic forms, largely they were predisposed to the milder form of tympanic colic, the Polo Ponies were mostly afflicted by impaction form of colic and the Arabian horses were susceptible to both impaction and spasmodic forms of colic. The disposition of gender and breed to colic forms could be associated to genetic and perhaps due to management systems encountered in the various establishments [3].

In the present study, horses that were used for riding school were susceptible to spasmodic and tympanic forms of colic, Polo horses were predominantly affected by impaction colic, horses that were used for patrol and multipurpose activities were predisposed to the milder forms of tympanic colic. Furthermore, horses used for leisure purposes were frequently being confronted by spasmodic form of colic, endurance horses were susceptible to both impaction and spasmodic colic and horses used for dressage predominantly encountered impaction colic and the findings were in consonance to those of [7, 21, 9, 10, 11].

In the present study, establishments (A-C) were mostly susceptible to the milder form of tympanic colic, (D) was predominantly afflicted by spasmodic and tympanic forms of colic, (E-H) were susceptible to spasmodic form of colic, (I) was afflicted by impaction and spasmodic colic while, establishments (J-N) were susceptible to impaction colic. The susceptibilities of the various establishments in the present study could be indicative of similar managerial system of practice for establishments with similar colic conditions. In the present study, horses that died of colic were mostly due to the resultant cumulative effect of impaction, spasmodic and tympanic colic forms while, those horses that were cured encountered the milder form of tympanic colic and were treated successfully and some without medication as indicated in the study conducted by [15].

Figure 7. Presented gender of horses with colic typ

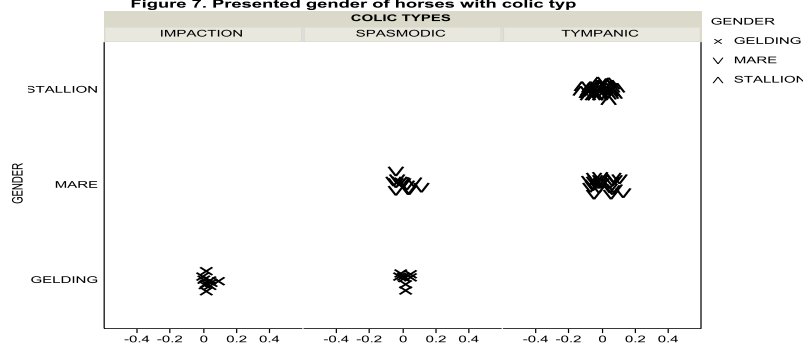
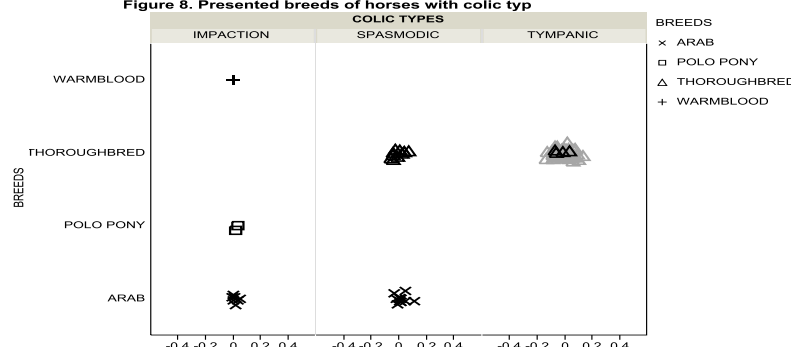
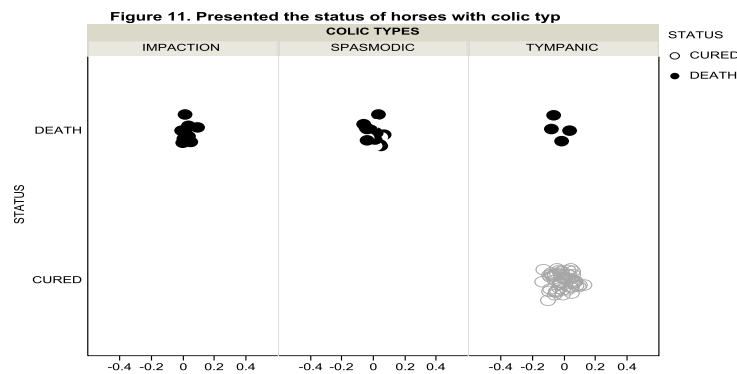
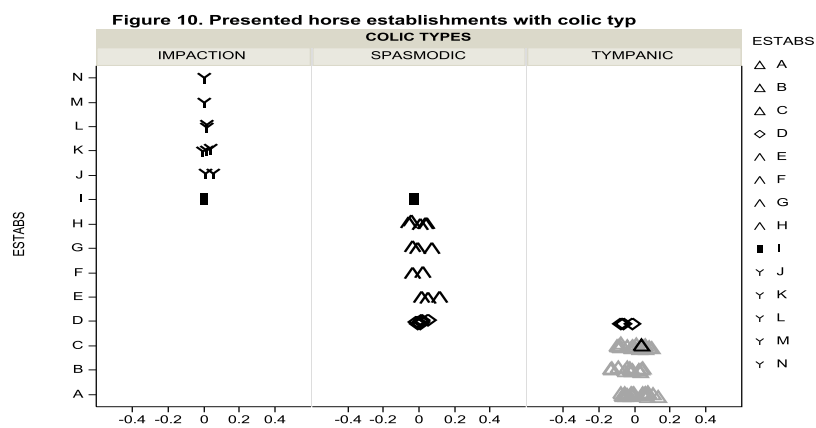
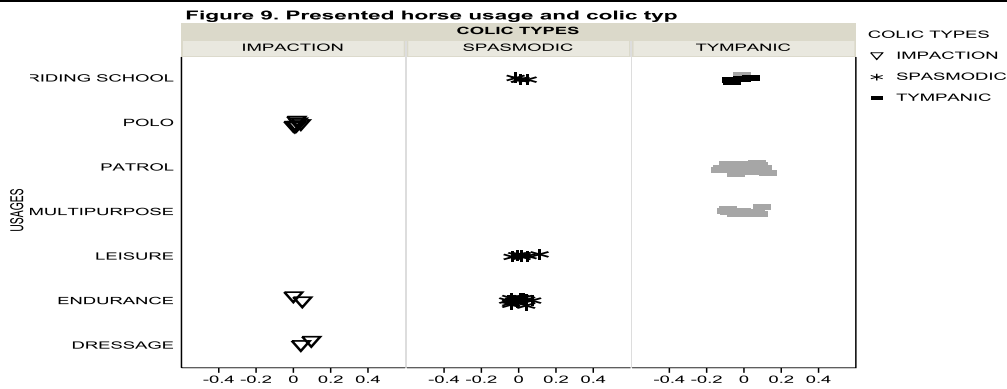


Figure 8. Presented breeds of horses with colic typ





VI. Conclusion

In conclusion, adequate independent record keeping and keen observations are the primary requirements for drastic control and preventive measures against the deleterious colic conditions

VII. Acknowledgement

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