Cecocecal and Cecocolic Intussusception in 30 Horses

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1. Introduction
Horses with cecal intussusceptions exhibit signs of acute intestinal obstruction or have a chronic disease, characterized by intermittent mild to moderate abdominal pain, weight loss, intermittent fever, and scant, soft feces.1-4 The diagnosis and treatment of this disease can be extremely difficult.1-4 Although an individual case report described a successful treatment of cecocolic intussusception by reduction through colotomy and partial typhlectomy,1 authors of a recent retrospective study reported a poor prognosis when colotomy was used.2 In another report, all four horses with cecocolic intussusception died or were euthanatized within 3 h after surgery.3 A successful outcome was described subsequently in two horses after bypass of the intussusception with a jejununocolostomy, without reduction of the intussusception.5,6 The purpose of this retrospective study was to determine the clinical presentation, response to surgical treatment, and prognosis in horses with cecocecal or cecocolic intussusception.

2. Materials and Methods
Information was obtained from case records of 30 horses admitted between January of 1976 and August of 1996 with a cecocecal or cecocolic intussusception. A 1-year follow-up by telephone was used to determine long-term survival. Differences between peritoneal fluid nucleated cell counts and total protein among the different types of intussusception were analyzed by using the Kruskal-Wallis test, with p < 0.05 set as significant. Breed prevalence and, when possible, differences in proportions of certain findings among types of intussusception were examined by chi-square statistics.

3. Results
Twenty-eight horses with cecocolic intussusception and two with cecocecal intussusception were admitted over a 20-year period. The horses ranged in age from 7 months to 30 years, but 63% were ≤3 years, and Standardbred horses were overrepresented (p < 0.05). Seventeen horses were presented with...
an acute clinical presentation (type 1), nine with a subacute form (type 2), and four with a chronic wasting disease (type 3). Diagnostic features were a mass in the right caudal part of the abdomen on palpation per rectum (14 horses), positive ultrasonographic findings (two of three horses examined), and peritoneal fluid changes suggestive of mild to moderate peritonitis. Intestinal sounds were reduced in all horses, abdominal distention was not evident, and some horses had scant feces and even diarrhea.

Five horses were euthanatized, one horse was dead at admission, and 24 horses had surgery. Six horses were euthanatized under general anesthesia because of severe peritonitis, rupture of the cecum, and failure to reduce the intussusception. A successful long-term outcome was achieved in 15 of the 18 horses allowed to recover from surgery. Surgical treatments were reduction, with or without partial typhlectomy (six horses), partial typhlectomy through a colotomy in the right ventral colon followed by reduction (six horses), reduction through a colotomy followed by partial typhlectomy (three horses), and partial typhlectomy for a cecocecal intussusception (one horse). Ileocolostomy was performed in two horses, and both died from peritonitis. Anoplocephala perfoliata were found on the intussuscepted portion of the cecum at surgery or necropsy in 15 horses.

4. Discussion

In a previous retrospective study on 11 horses with cecocolic intussusception,2 all three horses that underwent reduction through a colotomy died, whereas all nine horses survived in the present study after this procedure.

The cause of cecocolic or cecocecal intussusception is unknown, but mucosal inflammation from Anoplocephala perfoliata has been incriminated.7 In our study, 52% of the horses in which the intestinal lumen was exposed through a colotomy, typhlectomy, or necropsy had tapeworm infestation. This is similar to the recovery of Anoplocephala perfoliata from 50% to 54% of Thoroughbreds in Kentucky by necropsy.8,9 We could not identify a role for other proposed causes of cecolic intussusception in our horses.

The intussusception was difficult to reduce in all but one surgical case. In spite of concerns expressed in the literature about the risks of contamination after reduction through colotomy,2,5,6 none of the horses in this series had clinical signs of postoperative peritonitis after this procedure. Ileocolostomy was not successful in the present study, possibly because the cecum was not closed along the line of invagination. However, we recommend that bypass by ileocolostomy be used only as a last resort. An overly pessimistic approach to this disease, based on an initial assessment of the amount of cecum involved and concerns about intraoperative contamination, could lead to unnecessary euthanasia or inappropriate surgical treatment.

References