Clinical Report

Double Intestinal Intussusception due to Acute Enteritis in a Young Tibetan Spaniel Dog

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Abstract

Case Description - A six-month-old female Tibetan spaniel dog with repeated rectal prolapse and unsuccessful treatments was referred to the clinic of Faculty of Veterinary Medicine of Razi University (Kermanshah, Iran). Regarding the patient’s history colopexy was done through celiotomy incision, but 3 days later the patient was referred again with recurrence of prolapse.

Clinical Findings - On abdominal palpation, a sausage like mass was palpated in the abdomen. The clinical parameters were in the normal range, but stool samples proved the presence of giardia. The hemagglutination test for parvovirus was positive as well.

Treatment and Outcome - Exploratory celiotomy revealed presence of double intussusception. The intussuscepted segments were edematous and congested with adhesions and signs of devitalization. Resection and re-anastomosis were performed. The patient died 24 hours after surgery. The owner did not allow post-mortem examination, though the actual cause of death was remained unknown. The animal death could be related to weakness due to parvovirus and giardia enteritis, delay in treatment of underlying disease, electrolyte imbalance, surgical stress and inadequate postoperative management.

Clinical Relevance - Puppies and kittens show higher incidence of intussusception than adult animals. Any portion of the alimentary tract may be involved, but previous studies have indicated that the majority of intussusceptions in small animal are enterocolic. Prompt and precise diagnosis and accurate treatment with considering underlying diseases such as infectious enteritis and endoparasitism is very important to save the patient life.

Key words: double intussusception, dog, celiotomy

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Case Description

A six-month-old female Tibetan spaniel dog with the complaint of mass protruding through the anus (Fig. 1) and the history of previous several unsuccessful treatments such as manual replacement of prolapsed mass and suturing, was presented to the clinic of Faculty of Veterinary Medicine of Razi University (Kermanshah, Iran). It was diagnosed as rectal prolapse, though the prolapsed mass was cleaned and reduced, and colopexy was performed via a midline celiotomy1,2,3. Any other abnormal abdominal findings were not observed in celiotomy. Three days later the patient was again referred to the clinic with recurrence of the prolapse.

Clinical Findings

On abdominal palpation, a sausage like mass was palpated in the caudal region of the abdomen. The clinical parameters were in the normal range, but stool samples proved to presence of giardia. The
hemagglutination test for parvovirus was positive. With these findings and because of the recurrence of the prolapse, it was tentatively diagnosed as a case of rectal prolapse associated with intussusception. Unfortunately, diagnostic imaging (ultrasonography/radiology) was not available for definitive diagnosis, though it was decided to perform exploratory celiotomy.

**Treatment and Outcome**

Premedication was made by xylazine (1 mg/kg; IM) and anesthesia was induced and maintained with the combination of ketamine (5 mg/kg; IV) and diazepam (0.2 mg/kg; IV). Ceftriaxone (25 mg/kg; IV) was administered at the time of induction via fluid therapy. A midline celiotomy incision was made, the abdominal cavity was explored and the intussuscepted part was exteriorised involving two separate parts (jejunum and ileum) prolapsed into the colon (double intussusception) (Figs. 2 and 3). Some parts of telescoped segments were released by meticulous manipulation, but it was found to be devitalized. Enterectomy was performed to remove the devitalized part of intestine (Fig. 4), followed by end to end anastomosis (Fig. 5). The intestine was returned back into the abdominal cavity and the celiotomy incision was closed routinely. Despite concurrent postoperative antiparasitic, antibiotic and fluid therapy, the patient died 24 hours later. The owner did not allow any post-mortem examination; though the actual cause of death was remained unknown. Prolonged duration of disease with loss of fluids and electrolytes and delayed inadequate treatment of underlying diseases, or/and inadvertent consideration of the owner in addition to stress from 2 consecutive surgeries, might be the causes of death in this patient. Therefore, the present article reported a case of double intestinal intussusception due to acute enteritis in a young Tibetan spaniel dog and described pathobiology and main causes of this disorder.
Clinical Relevance

The term intussusception is a medical condition in which a part of the intestine prolapses or invaginates into the lumen of another part of bowel. Intussusceptum is the invaginated segment of the alimentary tract, whereas, the intussusceptiens is the enveloping segment. The pattern follows the normal direction of peristalsis or occasionally in a retrograde direction. Any portion of the alimentary tract may be involved, but previous studies have indicated that the majority of intussusceptions in small animal are enterocolic. Although specific etiological agents have not been implicated in the induction of intussusception, however, it is more likely to develop especially after handling of the small intestine during surgery, hypertrophied lymphoid nodules, and granulomatous secondary to inflammatory and parasitic disease such as ascaridosis, linear foreign bodies such as bones, plastic toys and etc. Clinical signs may vary with the amount of obstruction. Affected bowel may be palpable as a sausage-shaped intra-abdominal mass. Intussusceptions can progress to a point at which the small intestine protrudes from the anus. In the present case surgical management of double intussusception in a Tibetan spaniel dog was described. Most authors indicated that puppies and kittens have a much higher incidence of intussusception than adult animals. Intestinal intussusception in young dogs is usually suspected on the basis of abdominal palpation which appears like a defined, firm, tubular structure that should be differentiated from feces and foreign bodies. The condition is frequently associated with enteric infection or intestinal parasitism. In present case, the dog had enteritis may be due to both parvaviruses and giardia. The most important clinical signs with ileocolic intussusception are intermittent vomiting, progressive loss of appetite, mucoid bloody diarrhea and a palpable cylinder-shaped mass in the cranial abdomen, depression and anorexia. Diarrhea is the common sign in dogs and cats, but abdominal pain is not a consistent finding in affected animals. The differential diagnoses include all other causes of intestinal obstruction; foreign bodies, intestinal volvulus or torsion, intestinal laceration, adhesions, strictures, abscesses, granulomas, hematomas, tumors, or congenital malformations. Ultrasonography and radiographic evaluation of affected site are very helpful in establishing a definitive diagnosis. Accumulation of gas proximal to the intussusception may be observed on plain radiography. The surgical management of intestinal intussusception involves either manual reduction, or resection and re-anastomosis, or both. The decision is based on the surgeons gross evaluation of the viability of the intestinal components of the intussusception. Surgical resection and anastomosis of the intussusception are reported to lessen the incidence of recurrence when compared with manual reduction. Commonly, the displacement of a segment of bowel is defined, whereas, very rarely, two separate parts can prolapsed into the same distal segment, giving rise to double intussusceptions. Double intussusception in dogs is a very rare. Animals suffering from intussusceptions will have episodes of anorexia, depression, vomiting and diarrhea. These patients should be immediately undergoing surgery. Any delay in treatment, make poorer prognosis as we observed in the present case. Although the actual cause of death was remained unknown, it might be due to prolonged duration of disease, delay in treatment of underlying causes, weakness and electrolyte imbalance because of parasitic and viral disease, repeated surgery and inadequate postoperative management.

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Conflicts of interest

None.

References


چکیده
تلسکوپی شدن دوگانه روده به سبب آنتی‌تی حاد در یک فلاده سگ اسپتایل ایران

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 توصیف مورد- یک سگ ماده ۶ ماهه نازد اسپیمیا به تاریخچه پرولایپس مکرو راست روده و عدم پاسخ به جا زدن و بیخ گذاری به کلینیک دانشگاه ایران، دانشگاه رازی، کرمانشاه، ایران (کرمانشاه، ایران) ارجاع داد. با توجه به تاریخچه بیمار اقدام به کوپولیکی شد، اما ۳ روز بعد بیمار به پروکسی مکرو روده به دانشگاه ارجاع شد.

یافته‌های بالینی- در ملامه پیشی، یک تلخ نوری شکل احغاطی هی امتیاز داشت و هدف های حاکی اس حضور صیاردیا بود. همچنین همگری ناموری باروریوس سبب بود.

درمان و نتیجه- در علت هزگ، تلغکپی شده روده، تغییر نوری به دیدگاه از حضور دندان، این با توجه به تاریخچه ادیم و فاقد علائم حیاتی و تب، کلینیک داده بود. لذا اقدام به تغییر نوریی گرد و انستالیز کردن روده شد. این امر به توجه به تغییر نوری باروریوس و زیادبا و ضعف عمویی حیوان، می‌توان علت مراکز به اختلالات الکترولیتی تأخیر در درمان آنتی‌تی اس حرای و عدم مراقبت‌های لازم پس از عمل نسبت داد.

ارتباط بالینی- احتمال تغییر نوری روده در تلخ سگ‌ها و بچه سگ‌ها بیشتر است. امکان درگیری در نظر در غوری شود و وجود دارد، اما مطالعات اخیر بیان می‌کند که بیشتر تلسکوپی شدن در دامه‌ای وایچ‌های روده از انوکولیک ناپا. در درمان این بیماران بایستی توجه خاص به آنتی‌تیهای ناشی از عوامل عفونی و انگلی و سایر عوامل زمین‌ساز این عارضه مبنیتی داشته.

کلمات کلیدی: تلسکوپی شدن دوگانه، سگ، سلیبوئومی