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Management of gastric dilatation/bloat in a rabbit

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Abstract

A rabbit doe which was one and half year old and weighing 2.4 Kg was presented to clinic with history of anorexia, lethargy and constipation. Physical examination revealed difficult breathing, hunched posture, distention of the stomach and abdomen, head pressing, minimally responsive to any stimuli, slightly pale mucus membranes and rectal temperature of 99.9 oF. The radiographic examination revealed gas distended gastric shadow with various degrees of gas filled small or large intestine. After complete clinical examination of rabbit, the condition was diagnosed as gastric dilatation/bloat in rabbit. The rabbit was treated with needle trocarization, intravenous fluid, antibiotics, analgesic/anti-inflammatory drug and laxative. On day 4 of treatment, she was active and behaving normally so all treatment was discontinued and she was discharged on same day.

Key words: Gastric dilatation, bloat, rabbit

Introduction

Gastric dilatation which is commonly known as bloat is an abnormal accumulation of gastric gas which is mostly caused in rabbits due to obstruction of the small intestine with food held together with swallowed hairs (hair ball) and mucous or occasionally by abscesses or tumors. It may also be caused due to other causes like overeating, insufficient fibre in diet, pyloric blockage or other digestive problems. This condition may result in a life threatening emergency and should be corrected within 4-24 hours as often the untreated rabbits are found dead with no prominent signs of illness. It may be acute or chronic and affects the cardiovascular, respiratory, haemopoietic and renal system. Typical clinical signs include retching, cranial abdominal distension, circulatory collapse and dyspnoea. When compared to other animals, the stomach wall in rabbits is not very elastic due to which after a certain point, bloat becomes irreversible and fatal.

Abdominal radiography is not advised until after medical stabilization. The right lateral position is most revealing for radiograph (Hathcock ,1984). Gastric dilation (with or without volvulus) is confirmed by presence of a gas distended gastric shadow with various degrees of gas filled small or large intestine.

History

A rabbit doe which was one and half year old and weighing 2.4 Kg was presented to clinic with history of anorexia, lethargy and constipation since last two days. Physical examination revealed difficult breathing, hunched posture, distention of the stomach or abdomen (Fig.1), head pressing, minimally responsive to any stimuli, slightly pale mucus membranes and rectal temperature of 99.9 oF.The radiographic examination revealed gas distended gastric shadow (Fig.2) with various degrees of gas filled small or large intestine. After complete clinical examination of rabbit, the condition was diagnosed as gastric dilatation/bloat.

Treatment

After examination, needle trocarization (Fig 3) of stomach was done with a 20 gauze needle to remove air from stomach. Intravenous fluid therapy with normal saline solution (0.9%) was initiated at a rate of 20 ml/kg b.wt. to stabilize the circulation and prevent shock. Two ml of liquid paraffin was administered orally as laxative to relieve constipation. Rabbit was maintained on fluid (normal saline solution

0.9%) at a dose of 20 ml/kg b.wt twice a day intravenously for four days. Systemic antibiotic (Amoxicillin + sulbactam) at a dose of 10 mg/kg b.wt., anti-inflammatory (Meloxicam) at a dose of 0.2 mg/kg b.wt. and Ranitidine at a dose of 0.5 mg/kg b.wt. were given twice a day intramuscularly for four days. Animal got relieved from constipation on next day of treatment with laxative and recovered uneventfully in a time period of four days.

Fig1. Rabbit with enlarged abdomen.

Fig 2. Lateral abdomen radiograph showing gas filled stomach.

Fig 3. Needle trocarization to relive gas and fluid from stomach.

Discussion

Gastric Dilation may be caused by a sudden and complete obstruction (or blockage) of the intestines. Usually blockage in the small intestine occurs just 2-3 inches past the stomach and occasionally, it may occur where the small intestine meets the cecum i.e at the ileoceco-colonic junction. If the intestine is blocked very close to the stomach, symptoms develop very quickly. If the blockage is further down, by the cecum, it may take longer for the blockage to become life threatening.

Gas is normally produced by fermentation of stomach contents through the action of microbes (stomach bacteria) and is eliminated by eructation (belching). This gas layer generally sits above the solid and fluid contents and is belched out periodically. Problems arise when the gas layer is trapped in a stable froth or foam which prevents it from being belched out. It is known that some enterobacteria (Escherichia coli, Clostridium perfringens or Clostridium tertium) induce marked gastric dilation, congestion and intestinal emphysema in germfree pigs (Meyer and Simon, 1977) and rats (Yale and Balish, 1992).

In the present case, rabbit was anorexic and physical examination of animal revealed difficult breathing, distention of the abdomen and radiographic examination revealed gas distended gastric shadow which is also reported by Formaggini et al., (2008) in cat and Bhatia et al., (2010) in dog. Needle trocarization of stomach was done immediately with a 20 gauze needle to remove air from the stomach. The history of anorexia in the rabbit was a concern as it might have led to gastric ulcers. There was no GIT blockage. Ranitidine was administered and the owner was advised to offer pellets softened with water and fresh vegetables in small offerings to maintain the GIT motility. The normal body temperature in rabbits ranges from 101-103°F and careful monitoring of body temperature is very important in cases of bloat as a higher temperature may indicate an infection while a temperature lower than 101°F may indicate shock or septicaemia. As the temperature of this rabbit was found to be 99°F, it was considered as an emergency and intravenous fluid therapy with 0.9% warm normal saline was initiated immediately for hypothermia and shock treatment. The rabbit was kept warm by placing hot water bottles wrapped in towels against its body. The rabbit had not defecated since last two days and was also showing signs of acute pain like head pressing, hunched back and minimal response to any stimuli. If caecum is not emptying regularly, harmful bacteria like Clostridium spp. can multiply to large numbers resulting in accumulation of gases and toxins and also lead to severe pain. Therefore, meloxicam was administered to relieve pain and inflammation immediately. Laxative was administered

to let the impacted matter in the intestine pass through more easily. However, it is suggested that petroleum based laxatives should not be given for long term as they may interfere with the absorption of fat soluble vitamins. Also antibiotic was administered to the rabbit as a precaution to combat any infection due to history of constipation /GI stasis in the rabbit. However, it is advisable not to use antibiotics in rabbits until it is absolutely essential as some antibiotics kill the beneficial intestinal bacteria, thus adversely affecting the intestinal flora, as it then allows the resident pathogenic bacteria to multiply to larger numbers, which were earlier kept in check from multiplying by competition from the normal intestinal microflora (Reference is preferred for this statement).

The recovery of the rabbit after treatment with needle trocarization, intravenous fluid, laxative, antibiotic and anti-inflammatory was found to be good and complete without any complication. For successful treatment of bloat it is very important that it is recognized and treated at the earliest.

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