

Diagnostic Imaging of Pyloric Stenosis in 9 Dogs

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Purpose: Abdominal ultrasonography with hydrography, barium contrast study and barium-impregnated polyethylene spheres (BIPS) in dogs with pyloric stenosis were investigated.

Materials and Methods: Nine dogs were confirmed as pyloric stenosis through ultrasonography, barium contrast study or BIPS. Hydrography was performed after oral administration of water.

Results: Pyloric stenosis was diagnosed with hydrography in 6 dogs, barium contrast study in 3 dogs and BIPS in 1 dog. Hydrography showed pyloric wall thickening and gastric dilation with fluid retention. Barium contrast study revealed a “beak sign”, narrowed pyloric lumen and decreased gastric emptying time. BIPS was performed in 3 dogs. Only one of these dogs showed traditional sign of partial obstruction, large BIPS retained in gastric lumen. There were no remarkable findings with BIPS in the other dogs.

Conclusions: Pyloric stenosis is more common in older, small breed dogs. Pyloric stenosis causes persistent or intermittent vomiting. In severe form, surgical treatments such as pyloromyotomy or pyloroplasty are required. Barium contrast study has been used as the standard diagnostic tool for pyloric stenosis. However, barium contrast study requires a repetitive radiation exposure and long examination time. BIPS is simple and needs relatively infrequent radiation exposure. But, BIPS is assumed as a low sensitive method in this study. Ultrasonography was not considered as the traditional diagnostic modality for the gastrointestinal diseases, but recent studies have suggested that ultrasonography can be used as simple, fast and useful diagnostic imaging especially in fluid-filled stomach. In this study, ultrasonography showed typical lesions such as gastric wall thickening, pyloric lumen narrowing or obstruction and fluid retention. We speculate that ultrasonography especially using hydrography can be used as an alternative diagnostic method instead of barium contrast study and that ultrasonography is a sensitive and accurate diagnostic tool for pyloric stenosis.

Key words: barium contrast study, barium-impregnated polyethylene spheres, dogs, hydrography, pyloric stenosis.

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