ウシの盲腸腺癌の一例

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Cecal Adenocarcinoma in a Cow

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Primary malignant neoplasms derived from intestine are relatively uncommon in domestic animals, and there are several reports of adenocarcinoma in sheep [2, 4, 6, 10]. Although bovine case of adenocarcinoma originated from the small intestine [1, 7, 8] or rectum [3] were reported, no publication seemed to be presented on bovine cecal adenocarcinoma. In this report, pathological findings of the cecal adenocarcinoma will be described in a Japanese Black cow aged 11 years old.

Clinical examination was performed due to a notice of constipation and disclosed normal body temperature, loss of vigor and appetite, and neoplastic masses on the walls of the rumen and cecum by rectal palpation. No other significant changes was detected. The cow was slaughtered 3 days after the initial examination due to its unfavorable prognosis.

Gross examination revealed neoplastic nodular lesions grayish or reddish yellow in color and measured as large as 3 to 5 mm in diameter on the cecal serosa (Fig. 1). The neoplastic lesions involved all layers of the cecal wall containing lymphatic vessel-like brown tissues of tubular structure on the cut surface. Large omentum was also affected and thickened with the neoplastic lesions (Fig. 2). Disseminated lesions were localized on the serous surfaces of the duodenum, omasum, spleen, liver, ovary, and diaphragm.

Tissues were fixed in 10% buffered formalin solution, embedded in paraffin. Sections were stained with hematoxylin and eosin (HE). Selected sections were stained with periodic acid-Schiff (PAS) method.

Microscopically, the neoplastic lesions of cecum originated from mucosa and extended to serosa. The neoplastic cells proliferated in the mucosal crypts, and showed tubular growth in the lamina propria and invasive proliferation toward deeper layer with marked infiltration of lymphocytes (Fig. 3). The arrangements of neoplastic cells were irregular and formed single to multilayered glandular structure (Fig. 4). The lesions consisted of neoplastic glands with mucous secretion which was stained eosinophilic and PAS positive (Fig. 5), and well developed collagenous stroma. The neoplastic epithelial cells were cuboidal or columnar with eosinophilic cytoplasm, and were uniform in size and shape. The nucleus was round or ovoid and pale, and tended to locate in the base of the tubulus. Mitotic figures as well as large multinuclear cells were rather common. Brown tissues observed in autopsy were consisted of hemorrhages and deposition of hemosiderins. Fibrous tissues co-

Fig. 1. Many neoplastic nodules on the cecal serosa. No metastasis was demonstrated in the mesenteric lymph nodes (arrows).

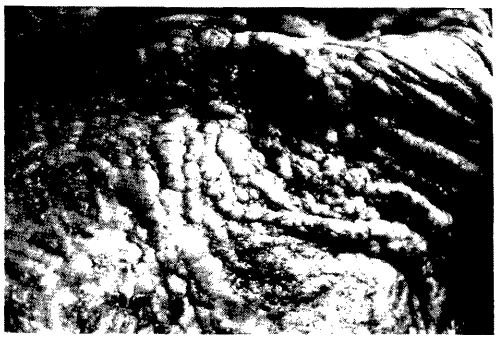

Fig. 2. Large omentum is irregularly thickened by diffusely distributed neoplasms.

Fig. 3. Proliferation of neoplastic cells with glandular arrangements in the mucosal crypts of the cecum and in the submucosa. Lymphocytes markedly infiltrate in the lamina propria and submucosa. HE. ×40.

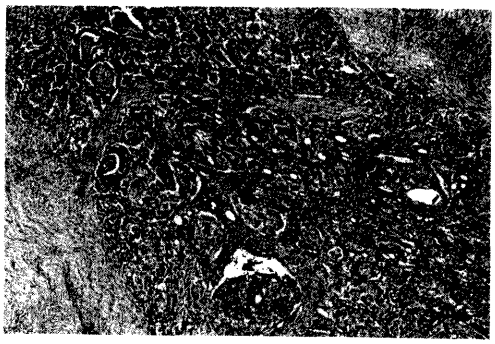

Fig. 4. Neoplastic lesion in the cecal muscularis. Irregular glandular arrangement among well developed stroma is observed. HE. ×40.

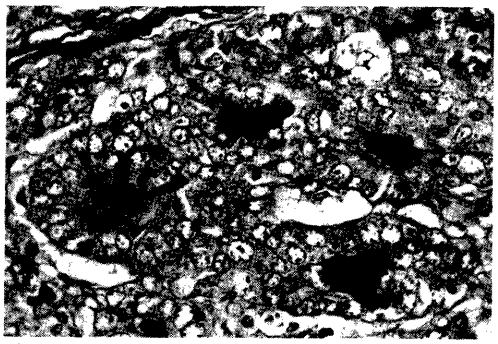

Fig. 5. Single to multilayered glandular arrangement of the neoplastic cells in the cecal wall. The nucleus is bright and located near the base of the tubulus. PAS positive and eosinophilic mucous secretion is observed in the lumen. PAS. ×400.

vered with swelled up mesothelial cells were observed on serosa. Metastatic lesions in the duodenum were localized in the mucosa, submucosa and serosa, and not in the muscularis. Metastasis was also observed on the large omentum, serosa of the small and large intestines, omasum, ovaries, diaphragm, and on the capsules of the spleen, liver, and pancreas associated with fibrous tissues. No metastatic lesions were observed in the hepatic parenchyma or in the cecal and mesenteric lymph nodes which were small and contained small and inactive follicles.

In the present case, loss of appetite, constipation, and tumors in the abdominal cavity by rectal palpation were clinical manifestations. The tumors were originated from cecal mucosa, and diagnosed histologically as tubular adenocarcinoma of cecum [5]. Oyamada and Yoshikawa [9] had reported on histopathogenesis of experimental intestinal adenocarcinoma in rats, and the tubular adenocarcinoma was presumed to occur from the proliferative zone in crypts of the intestine. In the present case, cancerous transition was observed in the mucosal crypts of the cecum. Metastasis was reported in the hepatic, mesenteric, and mediastinal lymph nodes by Monlux *et al.* [8]. The liver [2, 4, 6, 10], lungs [6] and, less commonly, other organs were also involved in sheep. Metastatic lesions of our case was prominent on the capsules of various organs and serosa of the alimentary tract in the abdominal cavity, but not in the lymph nodes. Accordingly, it was suggested that the neoplasm originated from the cecal mucosa was disseminated by implantation all over the peritoneal surface [2].

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要　　約

ウシの盲腸腺癌の一例(短報)：鈴木利行・佐藤　繁・大島寛一[1](宮城県農業共済組合連合会・家畜診療研修所，[1]岩手大学農学部獣医学科家畜病理学教室)——黒毛和種，11才の雌牛にみられた盲腸腺癌の症例を検索した．盲腸に原発病巣を認め，大網および十二指腸をはじめ腹腔内各所漿膜面に播種性転移が認められた．腫瘍細胞の配列は腺管状構造を呈し，その核は，明調で円形ないし類円形，細胞質は比較的豊富で弱好酸性を示した．