NOTE

Multiple Ganglioneuroma Derived from Intramural Plexus of Jejunum in a Sow

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A case of benign multiple ganglioneuromas was experienced in a Landrace sow without clinical abnormality. Tumor masses were partially obliterating the jejunal lumen.—*Key words:* Ganglioneuroma, Swine.

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Ganglioneuroma is a rare neoplasm in domestic animals [1, 2, 3], while there are some reports on ganglioneuroma arising in the adrenal medulla in rats [3, 4] and cranial nerve ganglia in dogs [2, 3]. Recently, we had an opportunity to examine a case of ganglioneuroma derived from the intramural ganglia of the jejunum in a pig. This brief communication deals with the gross and histopathological findings of this tumor.

A sow of Landrace breed raised in Akita Prefecture was slaughtered at Yokohama-city meat center, because of a reproductive disorder. She appeared healthy on antemortem

examination. Neoplastic lesions were detected at meat inspection. Two masses, a large egg-shaped mass and a rather small discoid mass, were noted from serosal surface, existing independently in some distance along the small intestine (Fig. 1, 2). The large egg-shaped mass measured 7.5 × 5.0 × 4.5 cm was occluding the jejunal lumen and the discoid mass causing semiannular stenosis by thickening of the intestinal wall, measured 3 cm in length, 2 cm in width and about 1.5 cm thick. Both tumors were located in the lateral wall and covered with thin, strained mucosal membrane. The mucosal membrane lost the

Fig. 1. Large egg-shaped tumor mass, occluding jejunum.

Fig. 2. A small discoid tumor, mainly located in the submucosa causing semiannular stenosis.

Fig. 3. Schema of a cross section of small tumor mass.

Fig. 4. A mass of nerve cell-like large cells (right) and fibrous elements (left). $\times 100$. HE stain.

foldings, but erosion and hemorrhage were not observed. The ovoid and discoid tumor masses were milky white in color and solid in consistency. No metastatic lesions were found.

Histopathological examination was carried out by routine methods for paraffin sections. Two tumor masses, arising in the jejunum, showed the same histopathological features.

The growth pattern was mainly expansive, but in some portions such as the tunica mucosa and submucosa, slight invasion was observed (Fig. 3). There were several tumor islets in the muscle layers. Tumor tissue was composed mainly of large cells varying in shape and size, and of fibrous elements (Fig. 4). Large neuron-like cells were often clustered and fibrous tissue was surrounding these

Fig. 5. Cross section of fasciculus mimicking normal nerve fibers. $\times 100$. HE stain.

Fig. 6. Argyrophilic fibers resembling normal axons in fibrous portion. $\times 400$. Bodian's silver impregnation.

clusters, resulting in fasciculated and whorled structures. The tumor tissue, thus, had some resemblance to the ganglia (Fig. 5).

Nissl substance were proved in the cytoplasm of the large tumor cells and argyrophilic fibers having similar staining properties to normal axons were also demonstrated in the

fibrous components (Fig. 6). Some of the large cells were surrounded by satellite cells. Few mitotic figures were observed.

From the location of the tumor originated and the histopathological features closely resembling the ganglia this tumor was diagnosed multiple, benign ganglioneuroma, derived

from the submucosal and/or myenteric plexus of the jejunum.

This case was a typical ganglioneuroma which would be the first case in pigs. The sow appeared healthy, though suffering from a reproductive disorder. A relationship between clinical signs and these tumors was not proved directly, but malabsorption might have been present due to stenosis caused by tumor masses located in the lateral portion of the intestinal wall and depressed the function of her genital system. This tumor was well differentiated though showing slight invasion to the surrounding tissue. It was unable to exclude a possibility that this tumor might

cause intestinal obstruction, if the pig were able to live further.

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要 約

豚の空腸壁神経叢原発の多発性神経節腫（短報）： 宇根ユミ¹⁾・岩間公男・吉田拓郎・代田欣二¹⁾・野村靖夫¹⁾・斎藤保二¹⁾（横浜市食肉衛生検査所，¹⁾麻布大学獣医学部病理学教室）——空腸原発の分化型神経節腫が，ランドレース系の繁殖用雌豚に認められた。腫瘍は，空腸に大小2つの独立した腫瘤として存在し，転移は認められなかった。腫瘍組織は，主に粘膜下組織で膨脹性に発育し，一部，固有層，筋層間にも浸潤していた。また，腫瘍組織は，Nissl 物質をもつ大型細胞群と特徴的な線維成分からなり，この線維中には，Bodian 染色で黒染する神経線維様物も見られた。