NOTE

Polycystic Immature Teratoma Observed at the Head of Meckel's Diverticulum of a Chick

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The teratoma has been reported to occur mostly in the testis or ovary, and occasionally in the retroperitoneal region, anterior mediastinum and other places close to the midline of the body [1–6]. Recently, Gupta [2] reported a case in the retroperitoneum of the abdominal cavity. Only a few spontaneous cases of teratoma have been reported in chickens [1–3]. This communication deals with the morphology of a spontaneous teratoma occurring in a 4-week-old male broiler chick. The chick was killed without manifestation of particular clinical signs.

Macroscopically, a spheroidal, somewhat hard tumor 2.3×2.0×2.0 cm in size was noticed at the extremity of Meckel's diverticulum which was moderately enlarged. Showing no adhesion to any adjacent organs or tissues, the tumor had many protruded cysts and blood vessels on the grayish-white and smooth surface (Fig. 1). The cut surface was mostly grayish-white with scattered small red spots and many cysts 0.1～1.0 cm in diameter which were filled with transparent fluid.

Histologically, the tumor surface was covered with a loose fibrous connective tissue connecting with serosa of Meckel's diverticulum. The tumor showed complicated structures consisting of epithelial and mesenchymal tissues. Numerous cysts and glandular tubules were predominant (Fig. 2), and the epithelial lining of the cysts and glandular tubules were composed mainly of columnar and occasionally cuboidal cells. The cysts and glandular tubules were filled with mucoid substance stained bright reddish purple by PAS and light blue with Alcian blue. In some areas ciliated columnar epithelial cells and many goblet cells were seen. Stratified squamous cells showed incomplete cornification (Fig. 3). Keratinized pearls surrounded by stratified squamous epithelial cells were scattered (Fig. 4). Furthermore, tissues with cartilage or many surrounding lymphocytes, which were seemingly of the air passage or bronchus, were found near the glandular tubules lined with columnar epithelial cells (Fig. 5). Adenocarcinomatous changes consisting of focal or diffuse proliferation of undifferentiated glandular epithelial cells were noted. There was distinct atypia in these tumor cells (Fig. 6).

As already mentioned, the most predominant mesenchymal element was a loose connective tissue with abundant smooth muscle fibers and blood vessels. Lymphocytes were aggregated mostly in
the vicinity of proliferated tumor cells. Any architecture identical to the tube of Meckel's diverticulum was not seen within the tumor.

In conclusion, the tumor seemed to be of tridermic origin. The endoderm, mesoderm and ectoderm elements showed different maturities without organization for any definite structure or arrangement. Diagnosis was polycystic immature teratoma, since numerous cysts and the tumorous proliferation of undifferentiated glandular epithelial cells were demonstrated. The cystic teratoma is said to be of mature type, while solid one of immature type [1, 6]. The present case, however, might be of immature type, although it was polycystic in nature.

REFERENCES


EXPLANATION OF FIGURES

Fig. 1. Teratoma (arrow) at the extremity of Meckel’s diverticulum.
Fig. 2. Many cystic and glandular elements. HE stain. ×50.
Fig. 3. A cyst lined with simple columnar and stratified squamous epithelium. HE stain. ×100.
Fig. 4. Epithelial pearl in stratified squamous epithelium. HE stain. ×100.
Fig. 5. A cyst surrounded by many lymphocytes. HE stain. ×100.
Fig. 6. Adenocarcinomatous tissue. HE stain. ×100.

要　約

鶏のメッケル憩室先端部に発生した多囊胞性未熟型奇形腫の1例（短報）：杉山公宏・磯田政恵（日本獣医薬産大学獣医病理学教室）、富沢厚（東京都家畜保健衛生所）——4週齢雄のブロイラー鶏のメッケル憩室先端部に、2.3×2.0×2.0 cm 大の腫瘍を認めた。この腫瘍は、組織学的に3胚葉由来のさまざまな成熟段階の組織からなり、多くの囊胞と未分化な腺上皮細胞の腫瘍性増殖像を伴っており、多囊胞性未熟型奇形腫と診断された。