Cyclopia is a congenital ocular abnormality in which two orbits are fused together due to an arrest in the normal process of embryonic tissue development. Reported here is a case of cyclopia in a calf observed from the uterus of cow slaughtered in an abattoir in Korea on March 24, 2004. The calf possessed a spherical-shaped head and only one centrally placed eye. The one eyeball showed complete eyelashes on the defective eyelids. The nasal region and the anterior nares were absent along with a dorsally curved mandible extended beyond the defective maxillae.

Key words: Cyclopia, Calf

Introduction

Cyclopia is a teratologic developmental anomaly in the fetus characterized by the presence of either a single median eye or incompletely fused, closely placed eyeballs within a single orbit. The latter case is most commonly observed. Cyclopia is also characterized by the absence of a nose and the defective formation of maxillae.

Cyclopia has been reported in virtually all species, but it is most common in the pig and sheep. In humans, approximately 1.05 in 100,000 births, including stillbirths, are identified as cyclopean. A number of factors have been suggested to contribute to the development of this anomaly. In recent studies, investigators have suggested that genetic disorders, ingestion of a weed, Veratum californicum, or prolonged gestation are possible contributors in the development of this anomaly.
ment of cyclopia\textsuperscript{10,11}. Also, studies of a loss-of-function mutation in several growth-related genes responsible for early eye development in vertebrates indicate that removal of such growth factors during the early stages of eye development may instigate cyclopia\textsuperscript{1}.

The following report utilizes macrography and radiography to describe on anatomical abnormality of the facial region of a fetal calf with cyclopia.

Fig 1. Lateral view of the head showing the dorsally curved mandible

Fig 3. Lateral radiograph of the skull. Hypoplasia of the maxillae is prominent

Fig 2. Anterior view of the head revealing cyclopia. The calf had a single orbit located in the middle of the face

Fig 4. Rostal caudal radiograph of the skull exposing the zygomatic arch and incomplete orbit

Symptoms

A female calf with cyclopia was discovered in the uterus of a cow slaughtered in abattoir in Jeonbuk province. This was the third pregnancy of Holstein cow. Previous pregnancies produced normal calves after a full term, and there was no historical suggestion of a teratogenic insult. The crown-rump length of the fetal calf was 66 cm, indicating that the cow was approximately 7 months of gestation. Observation of the severe form of cyclopia, holoprosencephaly, consisted of the presence of a single central orbit containing a single eyeball in the mid-forehead. The length of lower jaw (mandible) was longer than that of defective upper jaw (maxillae) and