

# Histopathological alteration of lung, small intestine and lymph nodes in calves suffering from typical clinical case of Foot and Mouth Disease.

H. kh. Ulaiwi  
Coll. of Vet. Med. /Unive  
of Al-Qadisiyah

H. M. J. Al-Tamemy  
Coll. of Vet. Med. /Unive  
of Basrah

N. H. Mansoor  
Coll. of Med. / Unive of  
Misan

## Abstract

This study was designed to investigate the histopathological changes that occur in some organs during infection of calves with foot and mouth disease. Autopsies from twenty six cases of calves aged 6 months to 1 year suffering from typical case of foot and mouth disease(FMD) were studied. The results of histopathological alteration of the lung revealed emphysema of in the lung, also there clusters of pigment –laden macrophages, hemorrhage, dilatation of alveoli and accumulation of amorphous exudate . The lesion of the intestine include hemorrhage, edema, thickening and hypertrophy of villi, also there are degeneration and necrosis of some intestinal gland. Alteration in the lymph nodes showed atrophy of lymphoid nodules and accumulation of collagen fibers with hemorrhage.

## Introduction

FMD is an acute infection of cattle, sheep, pigs, goats, buffalo and many species of cloven-hoofed wildlife, caused by a single-stranded RNA virus belonging to the genus Aphthovirus, in the family Picornaviridae. There are seven distinct serotypes of FMD virus, and within each serotype there are numerous strains(1). The virus causes an acute disease of cloven-hoofed animals characterized by fever, lameness, and vesicular lesions of the feet,

tongue, snout, and teats. These debilitating effects, rather than high mortality rates, are responsible for severe productivity losses associated with foot-and-mouth disease (FMD). The highly contagious nature of the virus and severity of economic impacts associated with the disease, determine FMD's status as the most important disease limiting trade of animals and animal products throughout the world(2).

## Materials and Methods

This study conducted in the field by studying 26 cases of calves aged 6 months to 1 year suffering from FMD. After investigation of clinical signs and gross lesion, an autopsy from immediately dead calves were taken including specimens from lungs, intestine and lymph nodes to reveal

the histopathological changes. The specimens fixed in 10% formalin and dehydrated by ascending concentrations of ethanolic alcohol, embedded in paraffin, cut at 5  $\mu$ m, stained with hematoxylin and eosin and examined by light microscopy(3, 4).

## Results

### ✚ Clinical signs

The clinical signs of the affected calves characterized by profuse salivation, erosion in the buccal cavity of the mouth hemorrhage with saliva, vesicle in the mouth and interdigital space and erosion and ulceration of the coronary band and respiratory difficulties.

### ✚ Gross pathological changes

The gross lesion in the viscera include severe hemorrhage in the lungs with frothy hemorrhagic exudated in the trachea and presence of serous fluid in the thoracic cavity and hemorrhagic enteritis.

### ✚ Histopathological changes: