CASE REPORT
A CASE OF SQUAMOUS CELL CARCINOMA IN A COW IN LIBYA

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ABSTRACT. The present paper describes a rare case in an adult cow in which a major part of perineum was covered with cauliflower-like growths. A biopsy sample was obtained from the growth originating from the perineum region of an 8 years old, local Libyan cow admitted to the teaching clinic in Faculty of Veterinary Medicine, University of Tripoli. The size of the lesion at the perineum region ranged from 18-20 cm in diameter. The animal was euthanized at the request of the owner and a postmortem was conducted. During postmortem examination, no metastasis of growth was observed in the internal organs besides other postmortem findings which were lung emphysema, mild hydroperitoneum, and enlarged left inguinal lymph-nodes. Histopathological findings of the perineum mass revealed cornifying type of squamous cell carcinoma, cell nest and inflammatory cell reaction, congested blood vessels, in addition to haemorrhage. Lymphoid hyperplasia was also observed at the left inguinal lymph node.

Keywords: Cow, perineum region, histopathological finding, squamous cell carcinoma, Libya

INTRODUCTION

Cattles are relatively rare to develop tumours compared with other farm animals' species as age is one of the predisposing factors in tumour development, and cattle in general, do not reach an old enough age to predispose them to tumour development (Gruber & Klopfleisch, 2020; Vries & Marcondes, 2020). Skin and subcutaneous tissue tumours are the most commonly recorded in farm animals (Ahmed & Hassanein, 2012).

Tumours of the genital organs can be found at the ovaries, fallopian tube, uterus, cervix, vagina, and vulva, with squamous cell carcinomas in the skin being the most frequently encountered tumour (Fubini & Ducharme, 2016). Agnew and MacLachlan (2017) mainly observed tumours in adult cows, sheep, and mares which originated from stratum spinosum cells. The present case is a clinical case of a tumour affecting the perineum region of a cow.

CASE REPORT

An eight-year-old emaciated Libyan cow with haemorrhagic lesions in the perineal region which existed over the past 6-8 months was admitted to the teaching clinic at the Faculty of Veterinary Medicine, Tripoli. During clinical examination, the mass was identified as 18-20 cm diameter cauliflower shaped with a firm consistency. Examination of the affected area revealed numerous cauliflower-like growth on the skin around the anus and ventrolateral to it in the perineal region. The individual growth was lying very closely to each other. The ventrolateral area to the left of the anus was almost completely replaced by small nodular growths. There was a semilunar bulging in this area which was causing stenosis of the anorectal opening. The superficial surface of the growth was bleeding from various

points and the whole area was soiled with clotted blood and faecal material (Figure 1). A biopsy of the growth was taken and fixed in 10 percent formol saline for histopathological examination. Systemic examination of the animal did not reveal any other specific illness, but in view of the animal's welfare, the animal was euthanized at owner's request due to the weakness, prolonged emaciation, and anorexia.

Figure 1. Gross appearance and location of the SCC in an 8 years-old Libyan cow. The lesion in the perineum region revealed numerous cauliflower-like growths around the rectum and vulva along with hemorrhage, fecal material, and bleeding spots

POSTMORTEM FINDINGS

Thorough postmortem examination did not show any visceral metastasis. The lungs showed emphysema and a small hydatid cyst. There was also the presence of mild hydroperitoneum. The left inguinal lymph-nodes were enlarged. The growth at the anorectal region was projecting into lumen and covered with blood clots.

The histopathological procedures were performed according to Bancroft J.D. and Cook. H.C. (1984). The sections were stained with haematoxylin and eosin (H&E) and examined under light microscope (ZEISS, Germany).

Histopathological findings of the perineum mass revealed typical lesions of a cornifying type of squamous cell carcinoma, cell nest and inflammatory cell reaction, congested blood vessels, in addition to haemorrhage (Figure 2). Lymphoid hyperplasia with absence of tumour metastasis was also observed at the left inguinal lymph node.

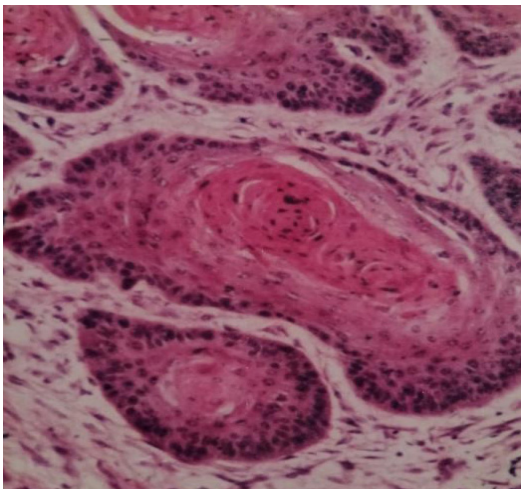

Figure 2. Histopathological examination of the tissue showing squamous cell carcinoma exhibiting cornifying type, cell nest and inflammatory cell reaction, congestion of blood vessels, in addition to hemorrhage (H&E, x100)

DISCUSSION

Squamous cell carcinomas and fibro-papilloma occur most commonly in the vulva of female cattle (Agnew & MacLachlan, 2016). Meanwhile, tumours of smooth muscle located in vagina are most commonly diagnosed in cattle (Valentine & Barrell, 2017).

Tumours such as squamous cell tumours, leiomyoma, fibroma, fibro-papilloma, haemangioma, fibrosarcoma, leiomyosarcoma, and melanoma can be located in the vulva (Mushap *et al*., 2016; Agnew & MacLachlan, 2016). Squamous cell tumours can be found especially in pigment-free regions of the body and are more frequently detected in older animals (Pandey *et al.*, 2010). In this case, it was observed that the cauliflower-like mass in the perineum region ranged from 18-20 cm in diameter. The diagnosis of squamous cell carcinoma was achieved through clinical history and examination coupled with histopathology findings.

In this case, squamous cell carcinoma can probably be attributed due to environmental factors associated with tumour development and may be due to long exposure to UV rays, which was similar to a case reported by Pandey *et al.* (2010). Predisposing factors of squamous cell carcinoma in cattle are multifactorial, with genetic and environmental influences contributing to the pathogenesis of the disease. In this particular case, lack of farmer's knowledge of tumours might have led to the aggravated tumour development in this cow. The owner reportedly consulted a few veterinarians beforehand and were told of the poor prognosis of this case.

This case describes a rare case occurrence of squamous cell carcinoma in which a major part of the perineum region was covered with cauliflower-like growth with bleeding from several points. Euthanasia was best prescribed in the opinion of authors on the request of the owner for this case in consideration of the animal's welfare and poor prognosis. Farmers are advised to monitor abnormal skin growths especially in older animals which are reared extensively to prevent tumour development in the future, as early detection will provide better prognosis through surgical intervention.

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