Case Report

Canine sebaceous adenoma of external genitalia: Case report

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Abstract

A 3-year-old, 3.8 kg, Pomeranian, intact female dog presented at the hospital with a firm skin mass at the external genitalia. Physical examination revealed the round-shaped, dark brown-colored with smooth-surface mass pendunculated from the left ventral commissure of the vulva. Excision and histological examination of the mass manifested it as sebaceous adenoma. No recurrence was observed during the 12-month follow-up period after the excision. As far as we knew, we found no previous report of such tumor on canine genitalia. This study thus demonstrated a rare case of canine sebaceous adenoma of the external genitalia, which could be completely curative by surgical excision.

Keywords: Sebaceous adenoma, canine, external genitalia

เนื้องอกของต่อมไขมันบริเวณอวัยวะเพศด้านนอกในสุนัข: รายงานสัตว์ป่วย

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บทคัดย่อ

สุนัขเพศเมีย พันธุ์ปอมเมอเรเนียน น้ำหนัก 3.8 กิโลกรัม อายุ 3 ปี เข้ารับการรักษาที่โรงพยาบาลสัตว์จากการพบก้อนเนื้อแข็งบริเวณอวัยวะเพศด้านนอก จากการตรวจร่างกายพบก้อนเนื้อลักษณะรูปร่างกลม สีน้ำตาลเข้ม ผิวเรียบ มีก้านยื่นออกมาจากบริเวณด้านล่างของอวัยวะเพศ ก้อนเนื้อถูกตัดและส่งตรวจทางจุลพยาธิวิทยา ผลการตรวจพบว่าเป็นเนื้องอกของต่อมไขมัน ภายหลังการผ่าตัดนาน 12 เดือนไม่พบการเกิดใหม่ของก้อนเนื้อ การศึกษาครั้งนี้จึงมีวัตถุประสงค์เพื่อรายงานการพบเนื้องอกของต่อมไขมันบริเวณอวัยวะเพศในสุนัขซึ่งพบได้ยาก ทั้งนี้เนื้องอกดังกล่าวสามารถรักษาได้โดยการผ่าตัด

คำสำคัญ : เนื้องอกต่อมไขมัน สุนัข อวัยวะเพศด้านนอก

Introduction

Sebaceous adenoma--a benign tumor of the skin sebaceous gland is a multilobular tumor with sebaceous differentiation. It can present as an isolated or multiple lesions, either dome-shaped, sessile, pedunculated papule or nodule, with smooth, well circumscribed, pale yellow to white on cut surface (Marques-da-Costa et al., 2015). It is common in middle aged to elderly dogs and mainly located on the trunk, head, and extremities of the affected dog (Halouzka and Nevole, 1976). Despite usually being asymptomatic, it may become traumatized and infected due to the licking of the lesions (Eisen and Michael 2009; Moriello et al., 2011). The factors contributing to the incidence of tumor include prolonged ultraviolet radiation exposure (Lesnik et al., 1992a, 1992b) and reduced expression of estrogen and progesterone receptors at the sebaceous gland (Bratka-Robia et al., 2002; Ginel et al., 2010). Definitive diagnosis of sebaceous adenoma requires cytology followed by tissue biopsy and histopathology.

Sebaceous gland tumors can be classified to sebaceous adenoma, sebaceous ductal adenoma, sebaceous epithelioma, and sebaceous carcinoma depend on their structures, cellular components and malignancies. Sebaceous adenoma is characterized by a benign neoplastic sebocytes, intracytoplasmic lipid vacuole-rich cells, with few basaloid reserve cells and ducts. Sebaceous ductal adenoma and sebaceous epithelioma are also benign tumors but the cellular components characterized by predominance of ducts or basoloid cells with few sebocytes, respectively. Sebaceous carcinoma is a malignant tumor characterized by a variable degree of sebaceous differentiation. The tumor cells show nuclear and cellular pleomorphism with high mitotic activity. Sebaceous adenoma, ductal adenoma and epithelioma are common in dogs but sebaceous carcinoma is quite uncommon (Goldschimdt 1998).

In general, it is difficult to distinguish between sebaceous adenoma and sebaceous hyperplasia. Sebaceous hyperplasia is the overgrowth of the lobules of glands around a central duct in superficial dermis. Only one gland is hypertrophied, and the surrounding glands are unaffected. In contrast, sebaceous adenoma indicated overgrowth of multilobulated glands and extended to adjacent areas e.g. subcutaneous layers of skin (Eisen and Michael 2009).

Surgical excision of the lesion is effectively curative owing to the tumor's benign nature (Marques-da-Costa et al., 2015) and no reported suggested widespread metastasis (Goldschmidt and Hendrick 2002). The possibility of transformation from benign to malignant tumor has no report.

Case report

A 3-year-old, 3.8 kg, Pomeranian, intact female dog presented with firm, round-shaped, dark brown-colored with smooth surface skin mass (1.8 x 2.0 x 2.0 cm) pedunculated from the left ventral commissure of the vulva (Fig.1). The mass was gradually developed with unknown period. The dog was fed with rice mixed with chicken and liver. The last estrous cycle was 3-4 months before with normal history of estrous pattern. The dog appeared bright, alert and responsive. There was no evidence of trauma or infection, and also no history of hormonal usage or skin tumor. Complete blood count and blood chemistry results were normal.

The mass was removed by surgical excision of tumor and sent for histopathological examination. An encapsulated, well demarcated skin mass at vulva area revealed increase lobules of hyperplastic sebaceous

gland; large polyhedral shaped, vaculolated cytoplasm and uniform round nuclei and interstitial fibrosis (Fig.2). According to histopathological result, sebaceous adenoma was diagnosed. The dog was treated with tramadol hydrochloride (Vesnon-V-100®) (dose 4 mg/kg, sid, SC) and Cephazolin (Cefaben®) (dose 25 mg/kg, sid, IM) on the surgical day. After that, the dog was treated with Cephalexin (Cemelax®) (dose 25 mg/kg, bid, PO, ac) for one week and Tolfenamic acid (Tolfedine®) (dose 4 mg/kg, sid, PO, pc) for three days.

The surgical wounds healed completely without any complications. The dog has been followed up for 12 months. There was no malignancies and recurrence of the lesion in the excised area.

Figure 1 The firm, round-shaped, dark brown-colored skin mass (1.8 x 2.0 x 2.0 cm) with peduncle (red arrowed) localized at the ventral commissure of the vulva.

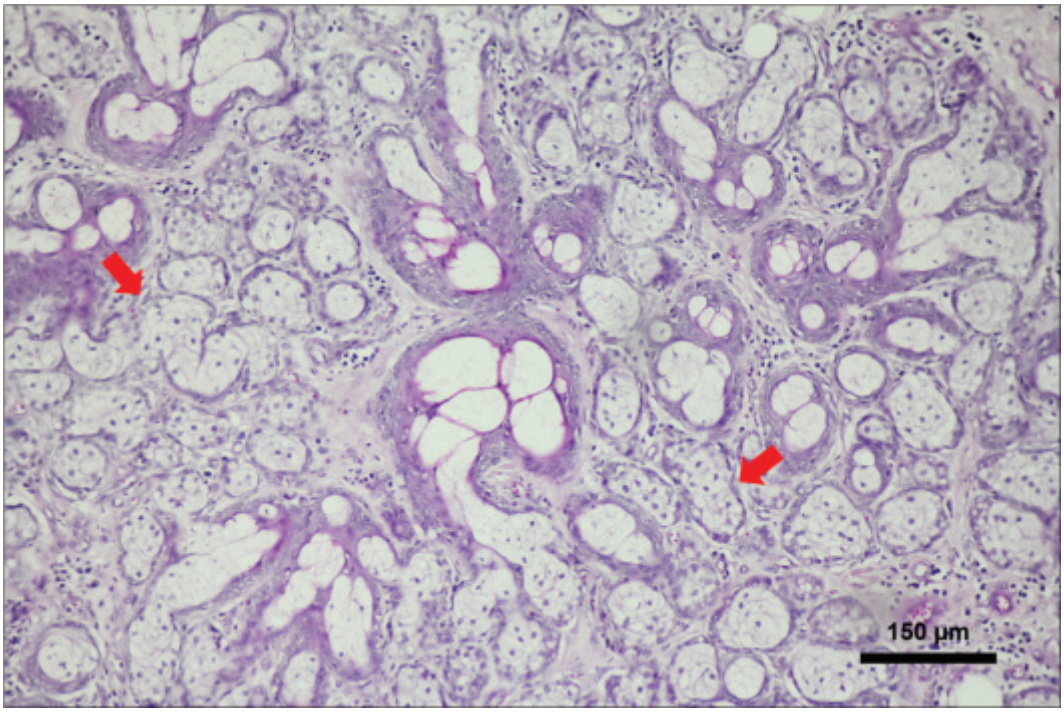

Figure 2 An encapsulated, well demarcated skin mass at vulva area revealed increase lobules of hyperplastic sebaceous gland; large polyhedral shaped, vaculolated cytoplasm and uniform round nuclei (red arrow) and interstitial fibrosis, (magnification x100, H&E stain).

Discussion

In canine, tumors of external genitalia are relatively uncommon. Leiomyoma/leiomyosarcoma and transmissible venereal tumor are account for most of the canine vulvar/vaginal neoplasms (Johnston et al., 2001; Radi 2005). Other canine vulvar/vaginal tumors such as adenocarcinoma, epidermoid carcinoma, fibrous histiocytoma, lipoma, myxoma/myxofibroma, melanoma, mast cell sarcoma, fibropapilloma (vaginal polyps), fibroma, fibroleiomyoma, hemangiosarcoma, and squamous cell carcinoma are rarely reported (Johnston et al., 2001; McEntee 2002; MacLachlan and Kennedy 2002). The pathogenesis of neoplasia at canine external genitalia is largely unknown. As previous study, more than 65% of canine with vaginal/vulvar neoplasia are intact female. This may be dependent on the presence of ovarian hormones (Johnston et al., 2001).

This present case was diagnosed as sebaceous adenoma at the vulva due to the typical histopathological findings of increase lobules of hyperplastic sebaceous gland; large polyhedral shaped, vaculolated cytoplasm and uniform round nuclei and interstitial fibrosis. Sebaceous gland adenoma was one of the most common canine cutaneous neoplasms (Mukaratirwa et al., 2005). The incidence rate of sebaceous gland adenoma was approximately 6.68% of cutaneous tumor (Pakhrin et al., 2007), commonly occurred on the trunk (22 %), extremities (20%), and head and neck (26%) (Pakhrin et al., 2007; Strafuss, 1976). The average age of the affected dogs was around 9.5-10.3 years-ranging from 4 months to 16 years (Pakhrin et al., 2007; Strafuss, 1976). Not only the presented case was likely to suffer from tumor earlier than average age, but the affected site-female genitalia was also rare-of which we found no other previous canine sebaceous adenoma of female genitalia reported in Thailand.

Though the contributing factor of sebaceous adenoma was due to prolonged ultraviolet radiation exposure (Lesnik et al., 1992a, 1992b) and the reduced expressions of estrogen and progesterone receptors at the sebaceous gland (Ginel et al., 2010), the etiology of the tumor in this case was unknown. Since the dog's breed was long-hair breed and the affected area was not entirely exposed to the sunlight comparing to the trunk,

extremities, and head and neck. Moreover, the reproductive examinations such as vaginal cytology, ultrasound of the ovary, or blood hormone profiles were not examined.

Normally, surgical removal such as vulvectomy, vulvovaginectomy, episioplasty or excision of vulvar masses with/without equipment (CO2 laser ablation or electrocautery) are the treatment of choice for vaginal/ vulva neoplasia (Johnston et al., 2001; Mathews 2001; McEntee et al., 2002). In this case, excision of vulvar masses is effectively curative owing to the tumor's benign nature. The 12-month-follow-up of the case manifested excellent recovery with no recurrence or malignancies found. We suggested that canine sebaceous adenocarcinoma of the genitalia was effectively curative by surgical excision.

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