

BENIGN INTERMUSCULAR LIPOMA IN A BITCH

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SUMMARY

A case of intermuscular lipoma located between the external abdominal oblique and internal abdominal oblique muscles in a fourteen-year-old dog is described. Presenting signs, radiographic findings, surgical treatments and the follow-up treatment are discussed.

Keywords: Benign, lipoma, intermuscular, bitch

INTRODUCTION

Tumors arising from adipose tissues are classified as either benign (Lipoma, Angiolipoma) or malignant (Liposarcoma). Lipoma is a common benign tumor of well-differentiated adipocytes seen in most domestic animals particularly common in the dog (Aiello, 1998). Predominantly subcutaneous, they occur most commonly in the trunk, gluteal region and proximal limbs (Goldschmidt and Hendrick, 2002). They generally grow slowly and are well circumscribed (Ogilvie and Moore, 1995). Thompson *et al.* (1999) reported cases of intermuscular lipoma in the thigh region in dogs. This report describes a case of intermuscular lipoma located between the abdominal muscles in a dog.

CASE HISTORY

A 14-year-old spayed female Spitz, weighing 14 kg was presented to the University Veterinary Hospital, Universiti Putra Malaysia with a history of a slow growing mass at the left side of the cranial lower abdominal region, observed over one year.

PHYSICAL EXAMINATION FINDINGS:

Upon physical examination, temperature, pulse and respiratory rate of the dog were found to be within normal range. Vaccination and deworming status were up-to-date. The dog was in good body condition. A large size (15×20cm), non-painful, firm mass was located at the left lower lateral abdominal wall. It was sessile, soft on palpation and no free movement of skin over the mass could be observed as in subcutaneous lipoma cases, but an abnormal swelling was noticed from the overlying muscle. Palpation of the mass did not reveal any definite information with regard to its exact anatomical location. The differential diagnosis at that point was space occupying lesion, possibly neoplasm, could be benign/malignant

such as lipoma, fibrolipoma, angiolipoma and mast cell tumor.

DIAGNOSIS:

A lateral radiographic view of the abdomen revealed the presence of a soft tissue mass at the left lower lateral abdominal wall extending from the 11th rib to caudal abdomen, (Figure 1). The ventro-dorsal radiographic view of the abdomen showed a clear and well demarcated opaque mass in the same region but its exact location could not be clearly identified. No significant changes were observed from the hematological examination. Complete blood cell count and blood chemistry were normal.

SURGICAL PROCEDURE:

Exploratory surgery was performed on the next day. The dog was premedicated with atropine sulphate* (0.05mg/kg, s/c) and acepromazine* (0.1mg/kg, s/c) and induced with 2.5% solution of thiopentone sodium* (12.5 mg/kg,) intravenously. This was maintained with 2% Halothane* (*Troy laboratories PTY) and oxygen (0.9 L/minute) delivered via a T-piece circuit using a cuffed 8.5 endotracheal tube. The dog was positioned in dorsal recumbency and a cranial mid ventral 4 cm skin incision was made 1cm caudal to the xyphoid process. A further incision was made on the linea alba. Upon examination of the abdominal cavity, the transverse abdominus and the peritoneum were intact. The midline ventral laparotomy muscle and subcutaneous tissue was closed immediately by using 2-0 vicryl (Johnson & Johnson Intl) and 2-0 ethilon (Johnson & Johnson Intl) for skin.

The dog was repositioned on right lateral recumbency and a 12 cm cranio-caudal skin incision was made over the mass on the left lateral abdominal wall. This exposed the external abdominal oblique. The muscle was bulgy. An incision was made on the muscle. A soft,



Fig.1. Lateral radiograph of the thorax and cranial abdomen showing dense mass caudal to rib cage (arrow)



Fig.2. Incision on the external abdominal oblique muscle showing soft lobulated mass (Lipoma) white in colour



Fig.3. Mass showing its attachments to the 12th rib and adjoining fascia and underlying internal abdominal oblique muscle

white, mass (14× 8 cm) was located between the external and internal abdominal oblique muscle (Figure 2). No attachments of the mass with underlying muscle was observed. However, the mass was loosely attached with the parietal surface of the 12th rib and available subcutaneous fascia near to the rib. (Figure 3). The mass was slowly excised and removed from its location and separated from the underlying tissues. There was no erosion of the rib and invasion was observed either on the parietal surface of the rib or into the abdominal muscle layer. The external abdominal oblique was closed routinely using 2-0 vicryl® (Johnson & Johnson Intl) and the skin was closed using 2-0 ethilon (Johnson & Johnson Intl). Amoxicillin-LA (Norbrook Lab. Ltd) was given subcutaneously as post-operative antibiotics at a dose rate of 20mg/kg body weight and continued per os another 5 days. Intravenous fluid therapy with 850 ml of 0.9% sodium chloride (Braun Melsungen, AG) was infused 1 tablet (bid) of Campain (Camden industries (M) Sdn. Bhd) for 5 days and administered per os from the second post operative day anti inflammatory medications.

Histopathological examination revealed typical fatty adipose tissue with no evidence of inflammatory reaction. The cells were round to polygonal without much stroma thus confirmed the mass as a lipoma. The dog had an uneventful recovery by the 5th postoperative day. There was no reoccurrence and or further growth during the 6-month post operative follow-up of the dog.

DISCUSSION

Free movement of the skin over the subcutaneous lipoma (Moulton, 1990) was not observed in this case, as the mass was located between the abdominal muscles. Inter-muscular lipoma that arises between muscles gives an impression of a muscle swelling with a large firm fluctuant mass and enlarged by expansion (Thompson *et al.*, 1999). No involvement of invasion into the adjacent muscle or fascia could be seen either histologically or morphologically in this case, which is similar to the findings of previous reports. Generally, all types of lipomas (Lipoma, Angiolipoma) occur in adult dogs and the incidence increases with age. It is more common in obese female animals than in males (Moulton, 1990; Thomp-

son *et al.*, 1999). It is true of this case. Thompson *et al.*, (1999) described cases of lipoma located between the semitendinosus and semimembranosus muscles of thigh region, whereas in this case the lipoma was located between the abdominal muscles. No reoccurrence of growth was noticed during follow-up. Surgical excision offers good prognosis and is curative for lipomas (Ogilvie and Moore, 1995; Thompson *et al.*, 1999). Lipoma usually originates from the adipocytes of subcutaneous tissue, fascia and occasionally from the periosteum. In this case, attachment was seen at the cranial border of the mass with parietal surface of the 12th rib and its surrounding fascia, giving a new view with regard to location of intermuscular lipoma in dogs. It is to be noted that location of intermuscular lipoma at the anterior abdominal wall has been recorded in human patients (Fletcher and Martin-Bates, 1988).

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