Thoracoscopic biopsy of lung tumors using a Roeder’s loop in dogs

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Abstract

Thoracoscopic biopsies were taken from four dogs with lung tumours using a Roeder’s loop. A Roeder’s loop is used to collect pulmonary tissue samples for histopathological analyses. In all the animals tissue biopsy using a Roeder’s loop enabled to collect a relatively large specimen of the lung tumor tissue.

Key words: thoracoscopy, dog, lung tumor, Roeder’s loop

Introduction

Examination techniques, such as radiography and ultrasonography are commonly used for the correct diagnosis of pulmonary diseases in dogs. Radiography is a basic examination procedure that is useful for the diagnosis of advanced pathological changes in thoracic cavity organs. Ultrasonography of the thoracic cavity organs has certain diagnostic constraints resulting from the presence of gases in lungs, and skeletal elements forming the thorax.

Thoracoscopy and the biopsies of the lung tissue are valuable addition to the range of imaging techniques used to visualise pathological changes in lungs.

The endoscopic technique of thoracoscopy is a reliable way of obtaining lung tissue samples for histological examination in human beings. Such advantages as low invasiveness, high efficiency and the collection of a satisfactory amount of material for histopathological analyses have led to the replacement of classical thoracotomy with thoracoscopic biopsy as a method of choice in human medicine.

The main indication for carrying out a thoracoscopic biopsy is a differential diagnosis of neoplastic or inflammatory processes in thoracic cavity organs (Teske et al. 1991, Mack et al. 1992). Most of lung biopsies are taken by biopsy needle. The available literature contains only small number of articles dealing with application of a Roeder’s loop in thoracoscopic biopsy of lung tumors in dogs (Garcia et al. 1998).

The present study aimed at evaluating the efficiency of a Roeder’s loop in the collection of lung tissue samples and to identify any potential complications resulting from positioning the loop.

Materials and Methods

Thoracoscopic examination was performed in four female dogs of different breeds (two boxer dogs, one crossbreed dog, and one cocker spaniel), aged from 11 to 13 years. The clinical history of the animals indicated that all the dogs had previously episodes of physical activity intolerance.

Radiographs of the thorax were performed for all the dogs. Radiographic pictures of lungs revealed a single, uniformly coloured oval shadow, 0.5 to 2 cm in a diameter, distinctly separated from the surrounding tissue. Pleural effusions were also observed on x-ray pictures. Because tumors were relatively small we de-