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Buying a Dog with Pulmonary Stenosis: some medico-legal considerations

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Abstract

Pulmonic stenosis (PS) is a malformation of pulmonary valve, involving the right ventricular outflow tract or the pulmonary artery. German shepherd, Bulldog, Labrador retriever, Collie and Boxer are breeds predisposed. Clinical signs are aspecific and include stunting, exercise intolerance, dyspnoea, syncope and ascites. Often PS may determine audible cardiac murmur and when audible is a high frequency, crescendo-decrescendo murmur during systole, loudest over the left side of the thorax, near the sternal cardiac border. The veterinarian should be able to assess PS such as heart defects because they may be object of legal disputes. In this study, the Authors report some cases of PS in dogs to clarify whether or not it may be considered a redhibitory defect.

Key-Words: pulmonic stenosis, dog, redhibitory defect
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Introduction

In buying of dogs the presence of heart diseases of proven or suspected hereditary origin, both congenital and non-congenital, may be considered a defect. Early recognition is of great importance to apply appropriate medical or surgical management and provide an accurate prognosis (1-2). Pulmonary stenosis (PS) is one of the most common congenital heart defects in dog, with an incidence of 11-21% of the total congenital cardiovascular abnormalities (1, 3-4). In according to localization of lesion it can be classified as subvalvular, valvular or supravalvular. In the dog the most common form of PS is valvular stenosis. Pulmonic valvular stenosis has been described in two different type: type A characterised by presence of fused and/or thickened pulmonary flaps, and type B, hypoplasia of pulmonary ostium associated with thickening and/or fusion of valve leaflets (5). he clinical history included lethargy, anorexia, exercise intolerance, shortness of breath, slow growth and, in severe cases, collapse and/or syncope and is variable in relation to the type and/or the severity of stenosis. The severity of PS can be assessed indirectly by measurement of Doppler-derived peak transvalvular pulmonary gradient during echocardiography. Pulmonary balloon valvuloplastic is considered to prolong survival of dogs with moderate or severe PS in order to reduce the risk of cardiac-related death and the development of clinical signs (4,6-10).

Materials and methods

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The study was conducted with a retrospective design. All the data used in the study were obtained by reviewing the medical records - with respect of owners' privacy - to identify all cases of PS in dogs that were referred to the Veterinary Teaching Hospital of University of Messina between January 2014 and December 2017.

The animals were undergone to a complete examination of the cardiovascular system including chest X-ray for the evaluation of cardiac silhouette and blood, and electrocardiogram. Diagnosis of PS was performed using the ultrasound system equipped with mechanical probes with a frequency of 2.5-3.5 MHz. The examination was carried out in accordance with the standards proposed by the American Society of Echocardiography (6). PS morphology and severity were classified according to guidelines previously published (5). Angiocardiography was reserved for the animals that were submitted to percutaneous interventional procedures or when necessary for diagnostic purposes.

Results

PS was detected in 13 dogs (9 males, 4 females) of various breeds, including Boxer (3), Cavalier King Charles Spaniel (1), French bulldog (2), Labrador Retriever (3),German Shepherd dogs (1) and American Stafford Shire Terrier (3).

Clinical history varied in relation to type or severity of cardiac disease and included lethargy, anorexia, exercise intolerance, shortness of breath, slow growth and collapse and/or syncope. The age of onset of symptoms ranged between 1 and 22 months. A high frequency, crescendo-decrescendo murmur present during systole, loudest over the left side of the thorax, near the sternal cardiac border may be surveyed.

The veterinarian informed the owners about the nature of the heart defect and the possibility of undertaking a redhibitory or estimatory action against the seller within 8 days from the discovery of the disease and within one year of purchase in according to Italian ode (articles 1490-1496).

In 8/13 cases the owners opted for the litigant request. In one case, the defect was found during the warranty period prescribed by law (1 year from the sale). After certification of the disease, the owner returned the animal to the seller requesting redhibitory action. In article 1495 of the civil code, the buyer loses the warranty rights if the seller is not informed of presence of the defect within 8 days of its discovery, unless another deadline is established by the parties or by laws (Civil Cassation, Sec. II on August 30, 2000, no. 11452).

In 2/13 cases the owners decided to submit the dogs to balloon valvuloplastic and no action against the seller was performed.

In 3/13 cases, the redhibitory action was requested. In no. 2 cases the sellers accepted the return of the puppies to their original domicile and to pay the full reimbursement, which included all

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costs of diagnosis and possible therapy. In no.1 case the redhibitory action was not accepted because the hair shaving necessary for echocardiographic examination was interpreted as property action on animal. Therefore, only estimatory action was allowed.

Discussion

Cardiovascular malformations are considered a principal cause of morbidity and mortality in dogs <1 year of age (11). PS is one of common cardiac abnormalities described in the dog, with a high prevalence of some breeds as German shepherd, Bulldog, Labrador retriever, Collie and Boxer (12). Often, PS determines no audible cardiac murmurs, so early recognition of defect has great importance to achieve appropriate medical or surgical management, improve outcome and provide an accurate prognosis. In PS the symptoms are aspecific (weakness, fatigue, depressed sensorium, pale mucous membranes, ascites, etc.,), so the disease may not be identifiable by using normal care of bonus *pater familias*. Therefore, PS may be identified as defect because is:

1. pre-existing or depend on a pre-existing cause;
2. hidden (it cannot be discovered by an ordinary inspection or examination; or rather, it is not easily recognized, at the moment of purchase it cannot be detected using the normal due diligence);
3. serious or chronic, so as to affect the use of the animal or such that, if the buyer would have been aware of the disease, he/she would not have entered into the contract.

Regarding breeds with predisposition to cardiac abnormalities, it would be desirable that the seller requires the assistance of a veterinary cardiologist to establish the cardiological status of the animal and to avoid disputes between the parties (buyer and seller). Until appropriate legislation regulating in detail the sale of pet animals is in place, it might be useful to require a temporal extension of warranty concerning hereditary defects and it is desirable to formalize plans for the eradication of hereditary and/or congenital heart disease. These would primarily be based on ethical principles and would exclude genetic selection for certain characteristics, which may promote phenotyping of hereditary heart defects.

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