

# Aggression types performed by dogs registered in an Italian sanitary district: preliminary results

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*Abstract:* Aim of this research was to classify the distinct types of canine aggression registered by the public veterinary service in a sanitary district of Liguria, Italy (ASL 5 Spezzino, La Spezia - Italy). The data sheets of biter dogs, recorded in the registers of ASL 5, also containing a space to report the accurate description of the aggression that permitted its classification by a veterinary behaviorist were used. The information was obtained examining 1,389 records, referring to the period from 1 January 2012 to 31 December 2016. The aggressive episodes coded were: irritation (n=137), redirect (n=107), territorial (n=81), protective (n=76), play (n=64), fear (n=48), predatory (n=35), food (n=26), possessive (n=18) and maternal (n=1).

Canine aggression is one of the most felt problems by the public opinion and it can constitute a serious danger to the safety of people. In the past, attention was paid to the analysis of the dog bites from different points of view, trying to correlate them to the period, the breed and sex of the animal, but little attention was paid to the identification of the type of aggression. In conclusions these first data, although preliminary, could be useful to better prevent the most frequent forms of aggression among those reported to the health authority.

*Key Words:* dog, aggression.

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## Introduction

Canine aggression is a very relevant event because, if directed towards people, it constitutes a public health problem. Often aggression is associated with a behavior problem and this is the most frequent reason why dog owners require a behavioral consultation (Voith, 1981; Wright & Nesselrote, 1987; Landsberg et al., 2013; Berzon et al., 1972).

In the context of public health protection, some forms of aggression management (such as aggression towards people, which occurs more frequently in an urban environment), are particularly important. Fear aggression is easily triggered outdoors, especially when the dog is on the leash, and therefore unable to effectively avoid the triggering stimulus (Luescher & Reisner, 2008). This is because the owner is often unable to understand the dog's calming signals (Gazzano et al., 2014; Mariti et al., 2017). Protective and irritation aggression are also very frequent (Overall, 2001).

In recent years, dog bites have often been analyzed to identify the breed or sex of responsible dogs, but there is little information about the type of aggression that has been put in place since reports from public health veterinary do not analyze these important aspects of the aggressive event.

Aim of this research was to classify the various types of canine aggression registered by the public veterinary service in a sanitary district of Liguria, Italy (ASL 5 Spezzino).

## Materials and methods

For the present study, the data sheets of biter dogs, recorded in the registers of ASL 5, were used (Tab. 1). The data sheets also contain a space to report the accurate description of the aggression that permitted its classification by a veterinary behaviorist. The information was obtained examining 1,389 records, referring to the period from 1 January 2012 to 31 December 2016.

Tab. 1. Data sheet for recording canine aggressions.

Number	Dog Breed	Sex	Age	Coat	Dog size
				Score	Score attributed
<b>Dog weight</b>					
• Less than 5 Kg				1	
• Between 6 and 20 Kg				3	
• Between 21 and 36 Kg				5	
• Over 36 Kg				7	
<b>Number of aggressions</b>					
• First aggression				1	
• Second aggression				5	
• Third or more aggressions				7	
<b>Place of aggression and type of attacked person</b>					
• Inside the house and unknown person				1	
• Outdoor				2	
• Inside the house and familiar person				3	
<b>Aggression type</b>					
• Pain aggression				1	
• Other types of aggression				3	
<b>Animal condition during aggression</b>					
• It is impossible for the dog to avoid the contact				1	
• It is possible for the dog to avoid the contact				3	
<b>Aggression predictability</b>					
• Presence of threat signals (growling, barking)				1	
• Aggression circumstances not known				3	
• Direct aggression				5	
<b>Prognosis of wounds</b>					
• Less than 5 days/ slight wounds				1	
• Between 5 and 20 days/ moderate wounds				3	
• More than 20 days/ severe wounds				5	
<b>REMARKS (description of aggression)</b>					

## Results

In the fig. 1 are reported the total number of aggressions performed by dogs in the considered period and the number of aggressions categorized by using the remarks of the data sheets.

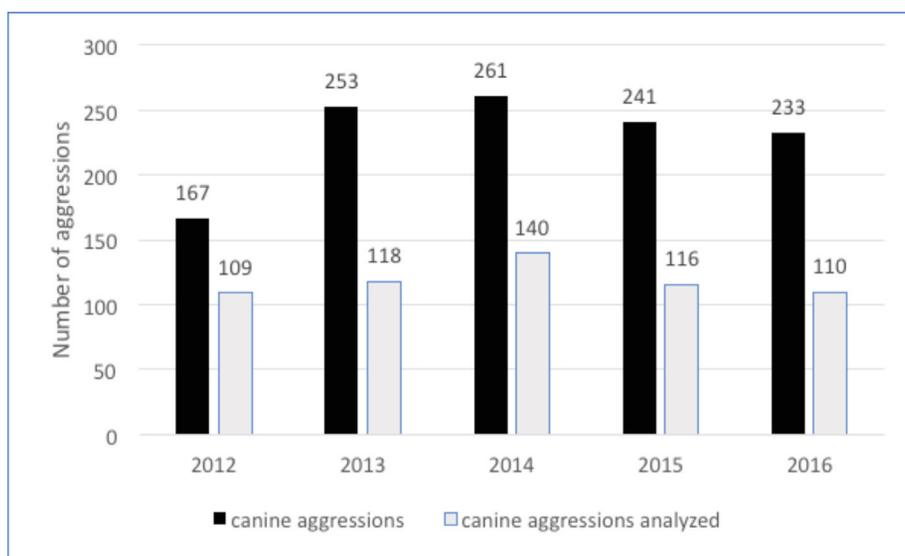


Fig. 1. Total number of aggressions and number of aggressions categorized.

In table 2 are reported the data of different aggression typologies performed by the dogs in the time considered.

Table 2. Distinct types of aggressive episodes coded.

	Irritation	Redirect	Territorial	Protective	Play	Fear	Predatory	Food	Possessive	Maternal
2012	23	22	12	18	24	4	-	6	-	-
2013	30	18	19	14	8	17	7	2	3	-
2014	21	33	20	16	11	15	10	8	5	1
2015	24	22	11	10	12	9	13	9	6	-
2016	39	12	19	18	9	3	5	1	4	-
Total	137	107	81	76	64	48	35	26	18	1

## Discussion

Canine aggression is one of the most felt problems by the public opinion and it can constitute a serious danger to the safety of people.

In the past, attention was paid to the analysis of the dog bites from different points of view, trying to correlate them to the period, the breed and sex of the animal, but little attention was paid to the identification of the type of aggression.

In this study the most frequent types of aggression are investigated, trying to categorize them. According the data obtained, irritation aggression is at the first place. This result should not be surprising because it is known that many episodes of biting happen in the home and are directed

towards the owners or people that the dog knows well. Sudden episodes of aggression could be related to some internal pain they are feeling, which sets them on edge if they are touched

This type of aggression is usually characterized initially by minor injuries that can become more serious with the repetition of episodes, due to a phenomenon of instrumentalization. In this way the dog will get a faster interruption of the interaction that is not appreciated.

Redirected aggressiveness is also very frequent. The person is not the target of aggressive behavior but remains the victim because he often intervenes in an attempt to protect his own animal from the attack of another dog. This is not an accidental aggression, but it is directly associated with the interruption of the aggressor's behaviors (Overall 2013).

In third place is the territorial aggressiveness that Karen Overall (2013) defines as that "form of aggression that is consistently demonstrated in the vicinity of a mobile or stationary circumscribed area, when that area is approached by an individual in the absence of an actual threat from those approaching".

The protective aggression is a particular form of territorial aggression: the dog defends a circumscribed area around the owner.

As regarding play aggression, it is more serious in dogs that have not acquired sufficient self-control during puppyhood because they have not had opportunities to interact with their brothers and with adults.

Less frequent are the fear and predatory aggression but probably the most dangerous for the person.

About fear aggression, it appears when the fear is combined with a situation where a dog has not been raised and trained humanely. Owners and trainers who employ punishment-based techniques on the fear aggressive dog, get worse the situation. Another cause of fear aggression is a lack of appropriate socialization during the dog's development (Gazzano et al., 2008).

The predatory aggression is not emotionally driven and is influenced by genetics. Sighthounds such as the Greyhound and Saluki are skilled chasers, while Labradors and Weimeraners are adept at flushing and retrieving birds. This normal behavior becomes a serious problem when it is directed toward the children, not recognize as human being.

The food aggression is characterized by the fact that the dog in possession or proximity of a food item directs a threat or harmful action toward another with the intent of backing that individual away from the food item. Many food-aggressive dogs are motivated by fear and anxiety and are not confident leaders.

Possessive aggression is directed toward humans or other pets that approach the dog when it is in possession of something that is highly desirable. To prevent it, teaching puppies when they are young that handling their food and possessions results in good outcomes, can help deter possessive behavior.

The less frequent form of aggressiveness found is the maternal one, which can however also occur during pseudo pregnancy.

In conclusions these first data, although preliminary, are an attempt to provide information on the most frequent forms of aggression among those reported to the health authority.

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### Tipologie di aggressività canina registrate in un distretto sanitario italiano: risultati preliminari

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#### Sintesi

Lo scopo della ricerca è stato quello di classificare i diversi tipi di aggressività canina registrati dal servizio veterinario in un distretto sanitario della Liguria (ASL 5 Spezzino).

Le schede dei cani morsicatori, registrati nei registri dell'ASL5, contengono uno spazio per riportare una descrizione accurata dell'aggressione che ha permesso la sua classificazione da parte di un veterinario esperto in comportamento.

Le informazioni sono state ottenute esaminando 1389 schede, riferite al periodo compreso tra il 1° gennaio 2012 e il 31 dicembre 2016.

Gli episodi aggressivi che è stato possibile codificare sono stati riferibili a: irritazione (n=137), rediretta (n=107), territoriale (n=81), protettiva (n=76), gioco (n=64), paura (n=48), predatoria (n=35), sul cibo (n=26), possessiva (n=18) e materna (n=1).

L'aggressività canina è uno dei problemi più sentiti dall'opinione pubblica e può costituire un serio pericolo per le persone.

In passata una grande attenzione è stata posta nell'analizzare le aggressioni canine da diversi punti di vista, cercando di correlarle con il periodo, la razza ed il sesso dell'animale ma poca attenzione è stata riservata all'identificazione del tipo di aggressione.

In conclusione, questi primi dati, sebbene preliminari, possono essere utili per una migliore prevenzione delle più frequenti forme di aggressività registrate dal servizio sanitario.

