HUMAN AND CANINE PEMPHIGUS FOLIACEUS: A REVIEW ON THE DIAGNOSTIC PROTOCOL

FACULTAT DE VETERINÀRIA

UAB Universitat Autònoma de Barcelona

Mireia Rodríguez Ferré, June 2018

1 Introduction

- Pemphigus foliaceus (PF) is an autoimmune disease characterized by the formation of superficial cutaneous blisters. It's caused by the union of autoantibodies to desmosomal epithelial cadherins.
- It's rare in humans, but is the most frequent autoimmune cutaneous disease in dogs.
- The diagnostic protocol includes physical and histologic exams in both species, and in humans it also includes serological tests.

2 Hipotesis and Objectives

Aim: Improve the diagnostic protocol of canine PF using the human protocol as a model.

How?

1) To revise the sensibility and specificity of the serological tests used in the diagnosis of human PF.
2) To study the correlation of the disease activity and the serum autoantibody levels in human patients.
3) To analyse the existent studies about the use of serological tests used in the diagnosis of canine PF.

3 Results

Table 1 **IIF sensibility in the diagnosis of human PF. Substrate influence in the results.**

Articles	Sensibility	Substrate
[1]	-	ME and GPE; Reactivity: GPE > ME
[2]	86%	ME and GPE; Reactivity: GPE > ME
[3]	71%	ME and RL; Reactivity: RL > ME
[4]	67%	ME
	100%	HS
[5]	84%	HS
[6]	89%	HS

Table 2 **ELISA sensibility and specificity in the diagnosis of human PF.**

Articles	Sensibility	Specificity	rDsg-1*
[6]	96%	96%	Expressed in cultured insect cells, using a baculovirus as vector
[7]	97,9%	98,9%	
[5]	92%	98,5%	MESACUP Desmoglein TEST "Dsg-1" (MBL)
[4]	92%	99%	
[8]	100%	95,7%	
	96%	99,1%	Human cell line (HEK293) expression

Table 3 **Correlation of disease activity with serum autoantibody levels in human patients.**

Articles	Patients	Correlation disease activity - ELISA	Substrate IIF	Correlation disease activity - IIF
[6]	5	+	HS	+
[7]	1	+		
[8]	5	+ (p<0,001)		
[9]	2	+		
[10]	7	+ (p=0,091)	ME	-
[11]	9	-	ME, RE, HS	+
[12]	9	+	ME	+

Abbreviations: ME (monkey oesophagus), GPE (guinea pig oesophagus), RL (rabbit lip), HS (human skin), RE (rat oesophagus), BT (bovine tongue), BE (bovine oesophagus), BN (bovine nose), CN (canine nose skin), CO (canine oral mucosa), MS (Neonatal mouse skin), CF (canine footpad), rDsg-1 (recombinant Dsg-1), MCA-B1 (culture of canine oral acanthomatous epulis cell line)

Table 4 **IIF sensibility in the diagnosis of canine PF. Substrate influence in the results.**

Articles	Substrate	Sensibility	Specificity
[13]	BT	64,3%	100%*
	BE	12,5%	100%*
	BN	0%	100%
	ME	44,4%	69%
	CN	-	0%
[14]	BE	29,6%	83,9%
	CO	18,5%	93,5%
	MCA-B1	14,8%	100%
[15]	MS	82%	20%
[16]	MS	84%	20%
[17]	CF	100%	-
	CO	18%	-

4 Conclusions

Serological tests in human PF:

- ELISA is the best serological test for the diagnosis of human PF. It provides higher sensibility and specificity than IIF, among other advantages. When performing IIF, the most indicated substrate is human skin.
- Serological tests can become a useful tool to monitor the activity of the disease, but further investigation is required.

Serological tests in canine PF:

- The studies conducted on the use of IIF for the diagnosis of canine PF hasn't been very successful up to now.
- Research on the usefulness of ELISA in the diagnostic protocol of this disease should be accomplished.

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