Short communication

SHARED ALLERGENICITY IN A LAPIN DELAYED HTPERSENSITIVITY TO GRAM NEGATIVE PROTOPLASMIC SONICATE PROTEINS PSP.

Abstract

There were shared allergenicity in delayed type hypersensitivity between the protoplasmic sonicate proteins of Pseudomonas aeruginosa with that of Klebsiella oxytoca Mild erythema was noted from 6 to72 hrs post to P.aeruginosa PSP [PAPSP] in Klebsiella oxytoca PSP primed rabbits KOPSP.Mild,moderate to high erythema during 6 up to 72 hrs post to KOPSP in PAPSP primed rabbits.Induration of 5 mm at 72 hrsin PAPSP ID injection inKOPSP primed rabbits.While induration of 6 to 12 mm in KOPSP ID injected PAPSP primed rabbits.Thus there was high quantitative and /or potency of the allergenic fraction of KO than that of PA.The shared fraction was characterized as; i – The epitope was in the intracellular protein , ii – produce variable degrees of erythema and induration but not necrosis in 72 hrs post injection of the sensitines in mmune primed rabbits , iii – express quantitative and/or potencey differences among different preparations , iv – The delayed allergenicity of this epitope was of bilateral or reciprocal type and v – of delayed allergenic nature.Such findings appeared to be novel contribution in bacterial protein allergens,with possible pan shared preserved protein fraction among these two different gram negative representatives of bacterial familes.

Keywords: primed rabbits, allergenicity, immunogenicity, bacterial proteins

Introduction

Bacterial antigens BAG may express shared antigenicity SHAG,share immunogenicitySHI and /or shared allergenicity SHALL.These sharing fractions can be of quality,quantity and /or potencey.Unilateral or bilateral and reciprocal or non-reciprocal nature [1-8].The present short communication was aimed at presenting shared delayed skin hypersensitivity betwen the intracellular proteins of two different gram negative bcteria.

PSP from *P.aeruginosa* and *K .oxytoca* were prepared,partially urified,indentified and quantified as an intracellular bacterial proteins as in [10].The concentration of PAPSP was 2.71 mg/ml. and that of KOPSP was 1.81 mg/ml.The test immunogens were PAPSP+FCA and KOPSP+ CFA for *P.aeruginosa* and *K.oxytoca* respectively.Specific immune priming of rabbits with test immunogens were made as in [11].DTH skin test was done and read as in [12].

Materials and method

The ID injection of 0.1 ml.PAPSPsnsitin in PAPSP specific immune primed rabbits was showing mild ,moderate and high erythema reactionlasted from 6 up to 72 hrs.The induration reaction was evident at 48 hrs and 72 hrs post injection of the sensitin as 10 and 18 mm respectively.This account for the homologous delayed hypersensitivity reaction.While the ID injection of PAPSP to KOPSP specific immune primed rabbits has

shown mild erythema reaction laste from 6 up to 72 hrs postinjection of the sensitin.The induration reaction was evident at 72 hrs post injection of the sensitin as 6 mm around the injection site.This accounts for the shared allergenicity in skin DTH reaction,Table – 1.

Table- 1 : Rabbit skin DTH reaction to PAPSP and shared reaction to KOPSP.

Duration of reaction in hrs	PAPSP inPAPSP primed	PAPSP in PAPSP primed	PAPSP in PAPSP primed	PAPSP in KOPSP primed	PAPSP in KOPSP primed	PAPSP in KOPSP primed
	E	I	N	E	I	N
6	+	-	-	+	-	-
48	++	10 mm	-	+	-	-
72	+++	18 mm	-	+	6 mm	-

Results and discussion

The ID injection of 0.1 ml of KOPSP in KOPSP specific immune primed rabbits was showing an erythema reaction of mild nature as (+) for the duration of time lasted from 6 up to 72 hrs post injection of sensitin with nill induration reactions.This accounts for the homologous DTH reactions.While the ID injection of 0.1 ml of KOPSP to PAPSP specific immune primed rabbits has shown mild,moderate to high erythema reaction lasted fro 6 up to 72hr respectively.Induration reactions were aparent in 6 mm for 48 hrs and 12 mm for 72 hrs post injection of sensitins This accounts for shared DTH reactions with nill necrosis reactions were evident in table ,Table – 2.

Table – 2 ; Rabbit skin DTH reactions to KOPSP and shared reactions to PAPSP

Duration of DTH reaction in hrs	KOPSP in KOPSP primed	KOPSP in KOPSP primed	KOPSP in KOPSP primed	KOPSP in PAPSP primed	KOPSP in PAPSP primed	KOPSP in PAPSP primed
	E	I	N	E	I	N
6	+	-	-	+	-	-
48	+	-	-	++	6 mm	-
72	+	-	-	+++	12 mm	-

Results tabulated in Tables 1 and 2 indicate that there was bilateral shared DTH allergenicity between PSP proteins of P.aeruginosa and K.oxytoca and the nature of this shared allergenicity be ofquatitative rather than qualitative.In which K.oxytoca PSP share allergenicity were more in quantity than that of P.aeruginosa PSP in rabbits models.

Change in theconformtion of the allergenic epitopes is mostly paralleled by change in in the nature of their allergenic responses[2].Protein allergens expressed potential risk for cross reactivity[3].Modification of corticosteroid from their original core structure may frequently lead to cross-allergenicity to the new form of the corticosteroid[4].Three patterns of cross allergenicity to proton pump inhibitors were indicated[5]. T cell are taking part in the DTH to

quinolones reactions and cross-reactivity to other quinolones[6].Human adenovirus serotypes express cross-reactivity in inducing DTH[7].Leukocyte migration inhibition to various cepam antibiotics displayed cepham shared allergeninicity in DTH reactions[8].

Bacterial antigenic epitopes can be with an array of immune potentials such as ;immunogenic,autoreactive, immunosuppressive, and /or delayd type hypersensitivity inducing nature[9].There were marked shared reactivity o fburilin of M.ulcerans to tuberculinn PPD of M tuberculosis as indicated by the induration upon intradermal injection.So that burilin positive patients when analysed in conjugation with either the presence of BCG scar or retesting of BCG vaccination ,12 0f 14 BCG vaccinated burilin patients were burilin positive and 6 of the 12 were also PPD positive[13].It had been reported that there were cell mediated immunity cross reactions of various species of mycobacteia that had been attributed to polymorphism of taget bacterial antigens[14].

Conclusion

The present study focusing onto sharing in delayed hypersenitvity inducing epiopes from intracellular proteins of P.aeruginosa and K.oxytoca with rather difference in quantity of the allergenic fractions.Both of which produce erythema and induration to variable degrees with abscence of necrosis up to 72 hrs post to sensitin injection through ID route.Shared delayed hypersensitivity induced by intracellular bacterial protein that was functionally mapped in this short communication can be characteized as in the followings;

i– The shared allergenic epitope is in or on protoplasmic sonicate protein with an intracellular location with possible oligoamnoacid sequence nature.

Ii –Function as delayd type allergen.

Iii – Response produce erythema and induration but not necrosis.

iv-Express quantitative differences among different protoplasmis sonicate proteins

v – This shared allergenic epitope is of bilateral reciprocal nature.

Vi – Atributed to T cell depdent hypersensitivity reactions,[1,12].

Vii – Such sharing delayed allergenic epitopes between bacteria that belongs to different gram negative families.It might be a pan shared preserved protein fraction,which may stands as a novel finiding.

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