

Genotypic characterization of antimicrobial resistance in

Non-Typhoidal Salmonella poultry isolates using multilocus sequence typing

HEALTH Poultry

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Hypothesis

To study the prevalence of Salmonella species among healthy native chicken in northern Tamilnadu and their significance in antimicrobial resistance (AMR)

Introduction

- Salmonella one of the important pathogens affecting poultry, a major source of human foodborne infections
- > Increasing evidence on AMR among salmonella can be a potential threat to public health
- Innocuous presence of non-typhoidal salmonella (NTS) in poultry, with antimicrobial resistance potential source for transfer of drug resistance to other members of the gut microbiome

Methods

- Cloacal & environmental samples (n=622) healthy native chicken
- Isolation and characterization of Salmonella species
- > Phenotypic and genotyping characterization of antimicrobial resistance
- Multilocus sequence typing housekeeping genes (AroC, DnaN, HisD, HemD, PurE, SucA, ThrA)



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Discussion

- Presence of NTS with multidrug resistance in healthy chicken can potentially spread AMR through faeces
- Detection of H₂S -ve isolates emphasis importance of molecular methods in identification of Salmonella
- MLST is more discriminatory than conventional serotyping in identifying serotypes with similar antigenic structure like Typhimurium, Saintpaul and Agona

	e	Serovars					Sorovare					Sero-			Sequence				No. of		
	0						gro	oup		type (ST)				is	isolate						
	S.	S. Enteritidis						D1			11				6						
	S. Typhimurium									19				2							
							В	В		49				1							
										36				1							
	S	S. Agona						В		13			3								
	C	S. Saintpaul					В		104			1									
	Э.							D			27			1							
	S	S. Bareilly						21		909				1							
	S	S. Infantis					S. Infantis				C	21		32			3				
	S.	S. Kentucky S. Weltevreden						22		198			5								
	S. W							E		365			2								
		GET	° S	AM	NS	C.E.	5 St	14	0	C18	\$ ²	MO	C	- CÓ							
	Enteritidis														10	Perc					
	Kentucky														80	ent					
	Saintpaul														70	ge					
ype	Veltevreden														60	of r					
Serot	Agona														50 40	esist					
Т	yphimurium														30	ant					
	Infantis														20	sola					
	Bareilly														0	tes					