SALMONELLA VRINDABAN, A NEW AND
ATYPICAL SEROTYPE FROM PIG

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ABSTRACT. Among 96 strains of Salmonella isolated from pigs and man, including 20 serotypes, one atypical strain of Salmonella was isolated, named Salmonella vrindaban, with Salmonella O and H antigens 45:a:e,n,x and O and H antigens of Arizona 11:35-28. Biochemical characters were not typical for either Salmonella or Arizona.

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Studies were conducted on the occurrence of Salmonella serotypes in pigs in relation to public health. From pigs 780 faecal samples, 68 samples of mesenteric lymph nodes and 77 samples of internal organs were examined. In case of human beings, a total of 347 faecal samples, including 11 samples from clinical cases of diarrhoea, were examined.

Kauffmann's modification of tetrathionate broth as enrichment medium and brilliant green agar with yeast extract (Stokes and Boyne, 1957) as selective medium, were used throughout the course of study. Salmonella genus specific 0-1 bacteriophage as advocated by Cherry *et al.* (1954) in conjunction with polyvalent Salmonella antiserum (A to 53 groups) was used for preliminary identification of cultures. Somatic and flagellar antisera were prepared according to the methods of Edwards and Ewing (1962) and Sharma (1961) for serological typing of cultures. For final typing and confirmation, cultures were forwarded to Dr. Joan Taylor of Salmonella Reference Laboratory, London.

A total of 96 strains of Salmonella were isolated from both pigs and human beings, including 20 serotypes.

Among these one strain which was not giving typical biochemical reactions for Salmonella was isolated from a pig in Vrindaban (India). After studying biochemically and

serologically, Dr. Taylor forwarded this strain to Dr. Edwards and Dr. Kauffmann for comparative studies, because serologically the strain appeared to have O and H antigens of an Arizona - 11:35-28; whereas biochemical reactions were not typical of either the Salmonella or Arizona groups (Taylor, 1962).

The biochemical reactions as studied by authors and Dr. Taylor were as follows:

Glucose	+	Raffinose	-	Simmons citrate	+
Maltose	+	H ₂ S	+	Dextro-tartrate	+
Mannitol	+	Urea	-	Laevotartrate	-
Lactose	-	Indole	-	Mesotartrate	-
Sucrose	-	M.R.	+	Mucate	+
Salicin	-	V.P.	-	Sodium citrate	+
Dulcitol	-	K.C.N.	-	Gelatin	+
Adonitol	-	Malonate	-	Arginine	+
Sorbitol	-	P.P.A.	-	Lysine	+
				Ornithine	+

This serotype was also finally accepted by Dr. Kauffmann as a new Salmonella serotype with antigenic formula 45:a:e,n,x and was named by the authors as Salmonella vrindaban. It is interesting to note that this organism can equally well be written as an Arizona having the structure Ar:11:35-28 Taylor (1962).

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