

A NEW SALMONELLA TYPE (*S. rubislaw*)

BY J. SMITH, M.D., D.Sc., F.R.C.P.

City Hospital Laboratory, Aberdeen

AND

F. KAUFFMANN

State Serum Institute, Copenhagen

IN 1934 a new *Salmonella* type *S. aberdeen* was described. This organism had the following antigenic structures:

O-antigen	...	XI
H-antigen, phase 1	...	<i>i</i>
H-antigen, phase 2	...	1, 2, ...

Recently, another *Salmonella* strain with the same O-antigen but a different H-antigen has been encountered.

CLINICAL HISTORY OF CASE

D. B., a boy aged 8 years, developed sickness and vomiting with abdominal pain, which was followed by severe diarrhoea. The child was ill for 2 days, and had a temperature ranging between 99·5 and 101·5°. Thereafter the symptoms rapidly subsided, and convalescence was established. The family consisted of the parents and three children, but only one boy was affected with enteritis. No particular article of diet could be incriminated as the source of infection, and no history of contact with any other case of enteritis could be established. A specimen of faeces was sent for examination and a profuse growth of a non-lactose fermenter was obtained on McConkey and Wilson-Blair media.

CULTURAL CHARACTERS

The organism was a Gram-negative rod, growing well on agar and in broth, and was definitely motile. It fermented with gas production arabinose, dextrin, dextrose, dulcitol, inositol, maltose, mannitol, rhamnase, sorbitol, trehalose, and xylose. It gave delayed and irregular fermentation in salicin, but produced no change in media containing adonit, lactose, and sucrose. In the media of Bitter, Weigmann and Habs it gave a positive reaction with arabinose, dextrose, dulcitol, rhamnase, and xylose. It produced a positive reaction in Stern's glycerine fuchsine broth (violet after 2 days), prompt positive reactions in media containing sodium *d*-tartrate, mucate and citrate, and delayed reaction in *l*-tartrate after 7–8 days, but failed to ferment *i*-tartrate in 14 days. It produced hydrogen sulphide but failed to produce indole, to liquefy gelatin

or to form slime wall. It grew freely on brilliant green agar, and on Simmons's agar containing arabinose, dextrose, dulcitol, sodium citrate, and rhamnose. The organism may, therefore, be designated "ammonstark".

SEROLOGICAL CHARACTERS

The O-antigen of *S. rubislaw* was found to be identical with the O-antigen of *S. aberdeen*, and can therefore be indicated by the factor XI. The H-antigen was diphasic and possessed in phase 1 the antigen *r*, which is identical with the antigen *r* of *S. virchow*, and in phase 2 the antigens *e, n, x*, which are identical with the *e, n, x* antigens of *S. abortus equi*.

The antigenic formula of this new type is consequently XI, $r \leftrightarrow e, n, x$, and this adds another to the list of types exhibiting alpha-beta phase variation.

Type	O-antigen	H-antigen	
		Phase 1	Phase 2
<i>S. abortus equi</i> .	IV	—	<i>e, n, x</i>
<i>S. virchow</i>	VI, VII	<i>r</i>	1, 2, ...
<i>S. aberdeen</i>	XI	<i>i</i>	1, 2, ...
<i>S. rubislaw</i>	XI	<i>r</i>	<i>e, n, x</i>

SUMMARY

A new type of *Salmonella* (*S. rubislaw*), exhibiting alpha-beta phase variation and found to have caused enteritis in man, has been described. Its antigenic formula is XI, $r \leftrightarrow e, n, x$.

REFERENCE

SMITH, J. (1934). *J. Hyg., Camb.*, **34**, 351.

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