A New Salmonella Serotype Isolated from Saudi Arabia

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SUMMARY: The isolation and identification of a new sub-genus I *Salmonella* is described. The complete antigenic formula is 3,10:z₂₉:enx; the serotype has been named *Salmonella everleigh*. The strain is atypical in that it ferments salicin, produces indole, and fails to produce acid in tartrate media.

Introduction

Salmonella infections remain one of the commonest causes of gastroenteritis; causing diseases both in humans and animals, the majority of isolates are sub genus I. The genus *Salmonella* is divided into four sub genera by the biochemical profile of the organism.¹

Serotyping of the somatic and flagella antigens is also carried out. Only sub-genus I *Salmonellas* are named.

The strain was referred to the David Bruce Laboratories for confirmatory identification and serotyping from Taif in Saudi Arabia. It was isolated from a clinical case of gastroenteritis, but no further clinical details were available.

Morphology and Biochemical Characters

The organism was gram negative, non sporulating, motile and rod shaped. It showed a fermentative metabolism, produced acid and gas from glucose and reduced nitrates to nitrites.

It produced acid from arabinose, dulcitol, glycerol, maltose, mannitol, rhamnose, salicin, trehalose and xylose. It did not ferment adonitol, inositol, lactose or sucrose. The organism produced H₂S and indole. It was methyl red positive and Voges Proskauer negative. It did not liquefy gelatin, failed to hydrolyse urea and grew on Simmons' citrate agar but not in Moeller's KCN medium. The ONPG test was negative. When using the method of Kauffmann and Petersen it failed to utilize d,l or i-tartrates, but utilized citrate and mucate.

Antigenic Structure

The somatic antigens of the organism as determined by single factor absorbed sera produced by the David Bruce Laboratories, were originally found to be 3,15 but later 3,10. The organism was diphasic and the flagellar antigens as determined by tube titre, from absorbed sera produced by the David Bruce Laboratories, were demonstrated as z₂₉:enx.

Further confirmation of antigenic structure was made by the production of antisera to the antigens of the new organism and testing these antisera against standard well characterised strains of *Salmonella*.

The complete antigenic formula was 3,10:z₂₉:enx.

The organism was sent to Dr Rowe, Director of the Division of Enteric Pathogens, Central Public Health Laboratory, London who confirmed the biochemical reactions and the antigenic structure and forwarded the strain to Professor Le Minor in Paris, who initially decided it should be placed in sub genus II, but following DNA/DNA hybridisation experiments he considered that it should be referred to as an atypical sub-genus I strain and named as *Salmonella everleigh*².

REFERENCES

1. KAUFFMAN. The Bacteriology of Enterobacteriaceae 1966.
2. Le MINOR, L and BOCKEMUHL, J. *Ann Microbiol* (Insert. Pasteur) 1983; 134: B 323-328.

VISITING LECTURESHIP

The Society of Medical Consultants of the (United States) Armed Forces has this year founded a visiting lectureship. Our Director General Army Medical Services, Lieutenant General Sir Alan Reay KBE QHP, was honoured to be the inaugural lecturer at the Uniformed Services University of Health Sciences, Bethesda, Maryland on 16 November 1984. His subject was "The Organization of the Medical Services of the Ministry of Defence - The Historical Context."