

NON-TYPHOIDAL *SALMONELLA* IN URINE CULTURE: A HARBINGER OF SYSTEMIC COMPLICATIONS?

Yim YTN¹, Ang AX², Lin RJ², Stephanie Sutjipto^{1,3}

¹Tan Tock Seng Hospital, Singapore ²Department of Infectious Diseases, Woodlands Health, Singapore

³National Centre for Infectious Diseases, Singapore

Aim

To evaluate systemic complications in Non-typhoidal *Salmonella* urinary tract infections

Background

Urinary tract infections caused by non-typhoidal *Salmonella* (NTS) serovars are uncommon and usually asymptomatic. NTS is typically transmitted through the faecal-oral route and most commonly presents as self-limiting symptoms of gastroenteritis, where antibiotic treatment is not required in immunocompetent patients. Severe complications such as endovascular infections may occur with bacteraemia, usually in immunocompromised patients.

Methods

We reviewed the medical records of 2 patients admitted to Woodlands Health between October 2024 and February 2025 with NTS bacteriuria.

Conclusion

Primary UTIs caused by *Salmonella* are uncommon.

The presence of *Salmonella* in urine cultures should not be ignored as insignificant, as this may signal a more serious systemic infection.

Even without bacteraemia, *Salmonella* bacteriuria in certain clinical scenarios warrants further clinical evaluation for occult foci and metastatic complications. Early recognition and appropriate imaging can be critical in identifying deep-seated infections and guiding effective treatment.

References

1. Tena, D., González-Praetorius, A. & Bisquert, J., 'Urinary Tract Infection Due to Non-Typhoidal *Salmonella*: Report of 19 Cases', Journal of Infection, 54, no. 3 (2007), 245-249
2. Cohen, J. I., Bartlett, J. A. & Corey, G. R., 'Extra-intestinal manifestations of salmonella infections', Medicine (Baltimore), 66, no. 5 (1987), 349-388
3. Mellon, G., Delanoe, C., Roux, A. L., Heym, B., Dubourg, O., Hardy, P., Chevallier, B., Perronne, C., Rouverix, E. & Salomon, J., 'Non-typhi *Salmonella enterica* urinary tract infections', Médecine et Maladies Infectieuses, 47, no. 1 (2017), 1-7.

Results

- Both patients were male and presented with non-specific acute febrile illness with no vomiting nor diarrhoea.
- In both patients, urine cultures grew pan-sensitive NTS, while multiple sets of blood cultures were negative.
- Both patients were found to have systemic complications on computed tomography (CT).

The first patient was an 87-year-old nursing home resident who presented with a persistent fever despite antibiotics. CT showed an aortic arch penetrating atherosclerotic ulcer. He was a poor candidate for surgery and was treated conservatively with 6 weeks of Ampicillin with clinical resolution.

The second patient was an immunocompromised patient on high-dose steroids for IgA nephropathy. He presented with fever and generalised abdominal pain. CT showed an acute perforated descending colon diverticulitis. Patient discharged against medical advice although he did complete a 6 week course of Ciprofloxacin and Metronidazole to cover for both NTS as well as the perforated diverticulitis. Repeat CT on completion of antibiotics showed resolution of the diverticulitis.

