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Isolation of a multi-drug resistant (Manual ESBL and Modified Hodge Test Negative) and KpC positive *Salmonella* group E from a 5-year old male with severe combined immunodeficiency (SCID) in a private tertiary hospital in Davao city, Philippines

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History: A 5-year old male was admitted last February 2013 for multiple infections secondary to Severe Combined Immunodeficiency. He was treated with different antibiotics for Mycobacterial, Fungal and Multiple opportunistic Bacterial Infections. Patient complained of gastrointestinal pain and mild diarrhea. The first request for stool culture was made on May 6, 2013 and the Microbiology Laboratory identified the organism by VITEK 2 compact (Biomeriux) as *Salmonella* Group. Polyvalent slide latex agglutination (Sifin Germany) was used and typed it as Group E *Salmonella*. Sensitivity results were resistant to all Cephalosporins, Fluoroquinolones, and Aminopenicillins and Penicillins with beta lactamase inhibitor. Carbapenems were all sensitive and attending physician started Imipenem. After 15 days, the second culture was repeated. *Salmonella* group E was isolated with the same sensitivity pattern but this time gave an intermediate result on Ertapenem. The third stool culture was done after five days. *Salmonella* group E was isolated with same sensitivity pattern but carbapenems were all reported resistant. Manual ESBL and Modified Hodge tests were performed according to the CLSI and ESCMID guidelines. Both yielded negative. Sample was sent to Milan, Italy for Molecular Typing. Results showed that the organism was positive for the Carbapenemase class KpC. Patient was treated successfully with Colistin.

Conclusion: The investigators were able to isolate the first *Salmonella* non-typhi (Group E) that is highly resistant to Carbepenems, Cephalosporins & other anti-*Salmonella* drugs. *Salmonella* spp. is generally sensitive to a wide variety of antibiotics. ESCMID and CLSI recommend only a few antibiotics to be tested against *Salmonella* Typhi and *Salmonella* non-Typhi. Ampicillin, Co-trimoxazole, a flouroquinolone and a 3rd generation Cephalosporin antibiotics in cases of extra intestinal Salmonellosis must be reported in the sensitivity panel. This case reports the 1st strain of *Salmonella* non-Typhi that is highly resistant to these anti-microbials and responded only to Colistin.

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