

Meropenem resistance in salmonella typhi in a paediatric patient, Lahore, Pakistan

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Dear Editor, We report a concerning case of meropenem-resistant Salmonella Typhi in a 5-year-old girl in Lahore, Pakistan, signalling an emerging threat to typhoid treatment. The patient presented with a 10-day history of fever and abdominal pain and was diagnosed with extensively drug-resistant (XDR) S. Typhi via blood culture. Initial treatment with meropenem (500 mg thrice daily) failed, with persistent fever and elevated C-reactive protein (268 mg/L). Clinical and Laboratory Standards Institute (CLSI)-compliant disc diffusion revealed meropenem resistance (MIC >32 µg/mL); molecular testing was not available. Combination therapy with colistin (40 mg twice daily) and azithromycin (20 mg/kg/day) resulted in defervescence within 4 days, and she was discharged from hospital after 14 days. Patient data were anonymized, and guardian consent was obtained.

Meropenem is a last-resort antibiotic for XDR S. Typhi, which constitutes approximately 25% of typhoid cases in Pakistan (95% CI, 12–44%).¹ National surveillance indicates meropenem resistance remains rare (around 2%).¹ This case, reported in Lahore, follows a documented case of NDM-5-mediated resistance in Peshawar.² The high prevalence of XDR strains in paediatric populations creates significant treatment challenges.³ The emergence of resistant cases in multiple cities suggests potential plasmid-mediated spread, likely driven by antimicrobial overuse.^{1,2}

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We urge enhanced antimicrobial stewardship, molecular surveillance for resistance genes, and expanded typhoid conjugate vaccine coverage, which has been shown to be more than 80% effective in Pakistani children.⁴ This case underscores the need for combination therapies and vigilant monitoring to preserve meropenem's efficacy.

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SA & NS: Concept, design, data acquisition, analysis, interpretation, drafting, revision, final approval and agreement to be accountable for all aspects of the work.