Rare isolation of *Leclercia* adecarboxylata in a child with pneumonia: Case report and review of literature

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ABSTRACT

Leclercia adecarboxylata is a Gram-negative flagellated bacilli named after Leclerc, who first described it in 1962. Isolation of this organism from body fluids is rare. Although it has been reported in immunocompromised individuals and nosocomial infections, pneumonia due to this organism is still rare. We report a case of 13 months old, previously healthy immunocompetent child, with community-acquired pneumonia due to *L. adecarboxylata*.

Key words: *Leclercia adecarboxylata, Pneumonia in immunocompetent child, Emerging causes of pneumonia*

Leclercia adecarboxylata is a flagellated Gram-negative bacilli named after Leclerc, who first described it in 1962 [1]. Initially, the bacteria were classified as *Escherichia* species, but were later renamed on the basis of differences in biochemical parameters [2]. Isolation of this organism from body fluids is rare. Although it has been reported in immunocompromised individuals and nosocomial infections [3-6], pneumonia due to this organism is still rare. We report a case of 13 months old, previously healthy immunocompetent child, with community-acquired pneumonia due to *L. adecarboxylata*.

CASE REPORT

A 13-month-old male child, with no previous history of hospitalization was admitted to our hospital with complaints of fever and cough since 7 days along with fast breathing since past 2 days. There was no history of any antibiotic administration. On examination, heart rate was 100/min, normal rhythm and volume, respiratory rate 42/min, subcostal, intercostal retractions, and nasal flaring present. Respiratory system examination had bilateral crepts, more on right while rest of the systemic examination was normal. Chest X-ray done showed inhomogeneous opacity in the right lower zone. The child was started on intravenous ceftriaxone and inhaled oxygen. However, respiratory distress persisted and hence was put on humidified high flow nasal cannula. Hematological parameters showed hemoglobin 9.2 gm/dl, thin-layer chromatography 9200 with 42% polymorphs and 56% lymphocytes, platelet count was 2.52 lacs/mm^3. Blood culture sent in BACTEC culture bottle had growth of *L. adecarboxylata* which was detected by VITEK 2. The organism was found to be sensitive to all tested antibiotics including penicillin, cephalosporin, amikacin, imipenem, meropenem, fluroquinolone, and co-trimoxazole. Respiratory distress settled over the next few days and the patient was discharged after completion of 7 days of ceftriaxone.

DISCUSSION

L. adecarboxylata belongs to *Enterobacteriaceae* family, which is phenotypically similar to *Escherichia coli*, initially named as *Escherichia adecarboxylata*. It was only in 1986 when Tamura *et al*. classified it in separate genus on the basis of biochemical tests and DNA hybridization [1,2]. It is thought to be distributed widely in nature and it is a rare cause of disease in humans. There have been reports of an association between contaminated seawater and wound infection [7]. Reports of children with this infection have been restricted to those undergoing peritoneal dialysis [8], preterm infants [9,10], chemotherapy recipients [11], catheter-related, or wound infections [12]. Pneumonia due to this organism has only been reported in adults. As per our knowledge, this is the first reported case of community-acquired *L. adecarboxylata* pneumonia. Isolation of *L. adecarboxylata* in children is still very rare. Although in our case isolated organism was sensitive to commonly used antimicrobials, there has been a report of drug-resistant strain of *Leclercia* spp. [13].

CONCLUSION

With indiscriminate use of antimicrobial use in our country, risk of drug resistance and the possibility of the increasing isolation of the organism cannot be ruled out.

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