Intestinal colonization by antibiotic-resistant Gram negatives in children

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Aim: This study aims to further the knowledge of antibiotic-resistance in the commensal intestinal flora of children by studying the intestinal colonization by antibiotic-resistant Gram negative bacteria in Portuguese children.

Introduction: Although it is known resistance to antibiotics is a growing problem worldwide, this scenario constitutes a risk factor for infectious disease is an under-characterized reality in Portugal.

Methods: Faecal samples of 29 healthy children (4 months to 12 years-old) were collected from randomly selected localities of Portugal: Viana do Castelo (n = 8), Porto (n = 6), Braga (n = 14), Leiria (n = 1), from September 2016 to March 2017. Risk factors were assessed by questionnaire, namely antibiotic usage history and direct contact with dependent elders. Isolates were selected by spreading saline suspension (100 µL) on MacConkey agar and MacConkey agar with ampicillin (100 µg/mL), cefotaxime (2 µg/mL), and meropenem (1 µg/mL). Susceptibility profiles to β-lactams and non-β-lactam antibiotics were assessed by disk-diffusion methods according to the EUCAST. Presumptive identification of the isolates was performed with CHROMagar-Orientation culture media.

Results: In a total of 29 isolates (lactose fermenters (n = 22) and lactose non-fermenters (n = 8)), 28 showed resistance to amoxicillin and 13 to amoxicillin with clavulanic acid. Of the 29 children analysed, 17 showed resistance to at least one of the antibiotics studied. Four children were colonized with bacteria resistant to cephalosporins (n = 8), two of which have daily contact with elders.

Conclusion: The results indicate that young children might be an important reservoir of commensals with clinically relevant resistance mechanisms. The clarification of this reality in Portugal could prove essential in the fight against silent dissemination of these threats and persistent infections.

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Is the oral mycobiome of young adults influenced by the delivery mode?

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Aim: To investigate whether the mode of delivery influences the oral yeast colonization in young adults.