

Presence of pathogenic bacteria in powdered formula consumed in Neonatal Intensive Care Units, NICUs

2013 : Report from Iran confirms concerns about increasing antibiotic resistance

See : <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3895565/>

Members of the *Enterobacter* family are again in the news with research showing contamination caused by a species of *Cronobacter* bacteria called *Pantoea (Enterobacter) agglomerans*:

« Contamination of powdered infant formula with *Pantoea agglomerans* will be associated with the development of disease among neonates. Therefore, the microbiological safety of powdered infant formula milk (PIF) is of most importance. **Because PIF is not a sterile product, it is an excellent medium to support bacterial growth.... The inherent capability of this organism to remain viable and grow well at room temperatures may contribute to such contamination.**»

(emphasis added)

Pantoea (Enterobacter) agglomerans can cause bacteremia or sepsis in neonates less than 30 days of age and cases have been reported among vulnerable infants in NICUs. The organism was found in 8 out of 125 samples of powdered infant formula purchased from hospital stores in Iran. Although the isolates were sensitive to 6 antibiotics, 50% of isolates were resistant to four frequently used antibiotics. This confirms the concerns over antibiotic resistance in the Chinese study summarised above: <http://online.liebertpub.com/doi/abs/10.1089/fpd.2013.1691>

2014 : Further report from Iran on another family member showing antibiotic resistance

Tatumella ptyseos is yet another member of the *Enterobacter* family. It is a food-borne opportunistic pathogen which can cause neonatal sepsis, bacteraemia and urinary tract infections. Out of 125 samples of powdered infant formula consumed in NICUs, four samples contained *Tatumella ptyseos* and all four isolated strains of this bacteria (100%) were resistant to the most frequently used antibiotics. Earlier research in 1981 in the USA, Canada and Puerto Rico showed that at that time, these bacteria were susceptible to all antibiotics. *Tatumella ptyseos* was identified in Malaysia in 1989 as causing presumed sepsis in a neonate ; it was sensitive to four antibiotics and the patient recovered uneventfully. A study in Brazil in 2008 noted « there is very little information about it in the medical literature. »

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4217668>
