

Supplementary Table S1. Clinical characteristics of patients infected or colonized with ESBL-KP during the outbreak

Case	Sex	Main morbidities	BW(g)	Room	Invasive procedures	Infection type	Positive culture sample (date)	Antibiotic regimen	Outcome
1	F	Ciliopathy - Joubert syndrome like Bone Dysplasia Respiratory failure	3430	T2	UVC CVC mechanical ventilation LTS	VAP	mini-BAL (02/02) Pharyngeal swab (05/02)	Meropenem + vancomycin, then meropenem	Cured, later dead (for other causes)
2	M	Extremely preterm (24 gws) RDS BPD	700	T1	UVC UAC ECC non-invasive ventilation	LOS (CLABSI)	Blood culture (02/02) Pharyngeal swab (05/02)	Vancomycin + amikacin, then amikacin + meropenem, then meropenem	Cured, discharged
3	M	Moderate preterm (31+4 gws) IUGR Suspected syndrome (esophageal atresia, CHD) RDS Pneumothorax	1200	T1	UVC UAC ECC mechanical ventilation pleural drainage LTS	LOS (CLABSI)	Blood culture (03/02) Pharyngeal swab (05/02)	Vancomycin + meropenem, then meropenem	Cured, later dead (for other causes)

4	F	Extremely preterm (23+1 gws) IUGR RDS Patent ductus arteriosus IVH II	400	T1	UVC UAC ECC mechanical ventilation Cardiac surgery	Colonized, then septic shock	Cutaneous swab (03/02), Pharyngeal swab (05/02) Blood culture (09/02)	Vancomycin + meropenem, then meropenem	Dead
5	M	Extremely preterm (24 gws) Severe RDS Pulmonary hypertension Cardiac dysfunction with systemic hypotension Patent ductus arteriosus IVH III and periventricular hemorrhagic infarction Bowel perforation	730	T3	UVC ECC mechanical ventilation	Colonized, then LOS (CLABSI)	Pharyngeal swab (06/02) Blood culture (07/02)	Vancomycin+ meropenem	Dead (palliative care)
6	F	Late preterm (36+5 gws) IUGR HIE	1925	T1	UVC UAC non-invasive ventilation	Colonized	Pharyngeal swab (05/02)	Not treated	Moved to another hospital

7	M	Moderate preterm (31+4 gws) RDS	1620	T3	UVC non-invasive ventilation	Colonized	Rectal swab (08/02, on admission in another hospital)	Not treated	Moved to another hospital
8	F	CHD	3800	T2	UVC CVC	Colonized	Rectal swab (09/02)	Not treated	Moved to another ward
9	F	Late preterm (35+1 gws) IUGR Down syndrome CHD Respiratory failure NEC	1660	Sub- intensive ward – room 2	CVCs Mechanical ventilation Abdominal surgery Cardiac surgery	Colonized	Rectal and pharyngeal swab (09/02)	Not treated	Moved to another ward
10	M	Moderate preterm (31+4 gws) RDS	1450	I	UVC	Colonized	Rectal swab (09/02)	Not treated	Discharged
11	F	Moderate preterm (32 gws) Alagille syndrome CHD Pleural effusion	1865	Sub- intensive ward – room 4	UVC ECC Mechanical ventilation	Colonized	Rectal and pharyngeal swab (09/02)	Not treated	Moved to another hospital

12	F	Extremely preterm (27+4) RDS	1160	Sub- intensive ward – room 2	UVC non-invasive ventilation	Colonized	Rectal swab (09/02)	Not treated	Discharged
13	M	Moderate preterm (30) RDS Patent ductus arteriosus	1600	Sub- intensive ward – room 4	UVC non-invasive ventilation	Colonized	Rectal swab (09/02)	Not treated	Discharged

Legend: BW: birth weight; F: female; M: male; gws: gestational weeks; RDS: respiratory distress syndrome; BPD: bronchopulmonary dysplasia; IUGR: intrauterine growth restriction; CHD: congenital heart disease; NEC: necrotizing enterocolitis; IVH: intraventricular hemorrhage HIE: hypoxic-ischemic encephalopathy; T1-3: NICU six-bed rooms; I: isolation room; UVC umbilical venous catheter; UAC: umbilical arterial catheter; CVC: central venous catheter; ECC: epicutaneous-caval catheter; LTS: laryngotracheoscopy; VAP: ventilator-associated pneumonia; LOS: late-onset sepsis, CLABSI: central-line-associated bloodstream infection; BAL: bronchoalveolar lavage.

<ul style="list-style-type: none"> • A case of systemic infection by ESBL-PE, CPE or CRE
<ul style="list-style-type: none"> • A case of systemic infection by <i>Pseudomonas Aeruginosa</i>
<ul style="list-style-type: none"> • A case of systemic infection by an unusual gram-negative bacteria (e.g. <i>Citrobacter</i> spp, <i>Serratia</i> spp, <i>Acinetobacter baumannii</i>, <i>Burkholderia</i> spp, <i>Stenotrophomonas maltophilia</i>)
<ul style="list-style-type: none"> • 2 or more isolates of the same microorganism (except CoNS) from a sterile site in the last 30 days
<ul style="list-style-type: none"> • 2 or more isolates of the same MDRO or of the same unusual gram-negative from a non-sterile site in the last 30 days

Supplementary Table S2: Criteria for definition of an epidemic event or a potential epidemic event

Legend: ESBL-PE: extended-spectrum beta-lactamase-producing *Enterobacterales*; CPE: carbapenemase-producing *Enterobacterales*; CPE: carbapenem-resistant *Enterobacterales*; CoNS: Coagulase-negative *staphylococci*; MDRO: multidrug-resistant organism