Invasive Cronobacter Infection in Infants Case Report Form

NOTE: Enter all dates as MM/DD/YYYY

ADMINISTRATIVE

Case state ID: _____ NNDSS ID: _____

Reporting state: _____ PulseNet ID: _____ Date form completed: ____/____/_____

Was the case associated with an outbreak?
O Yes O No O Unknown

Was the patient's parent or guardian interviewed?
O Yes O No O Unknown

ILLNESS HISTORY

Date of onset of illness (*MM/DD/YYYY*): ____/____/_____

Age at onset of illness (*If <60 days, please describe age in number of days*): _____ O Days O Months

Sex:
O Male
O Female
O Other
O Unknown

Ethnicity:
O Hispanic or Latino
O Not Hispanic or Latino
O Unknown

Race (*select all that apply*):
☐ White
☐ Black or African American
☐ Asian
☐ Native Hawaiian or Other Pacific Islander
☐ American Indian or Alaskan Native
☐ Middle Eastern or North African
☐ Other Race, specify: _____
☐ Unknown

State of Residence: _____ State where illness occurred: _____

Was the patient hospitalized at the time of illness onset?
O Yes O No O Unknown

Was the patient hospitalized as a result of this infection?
O Yes O No O Unknown

Type of hospital setting:
O Hospital intensive care unit
O NICU
O PICU (*select one*):
  O Special care nursery
  O Newborn nursery
O Regular ward
O Unknown

Admission date: ____/____/_____
Discharge date: ____/____/_____

Clinical syndrome (*select all that apply*):
☐ Sepsis (bacteremia)
☐ Meningitis
☐ Necrotizing Enterocolitis (NEC)
☐ Skin or soft tissue infection
☐ Urinary tract infection
☐ Diarrhea
☐ Other (specify): _____
☐ Unknown

Complications (*select all that apply*):
☐ Seizures
☐ Brain abscess
☐ Brain infarct
☐ Hydrocephalus
☐ Ventricular shunt
☐ Other (specify): _____
☐ Unknown

Death:
O Yes, (*MM/DD/YYYY*): ____/____/_____
O No

MEDICAL HISTORY

Birth history:
O Cesarean delivery
O Vaginal delivery
O Unknown

Was the infant a:
O Singleton
O Multiple
O Unknown

Gestational age (weeks) at birth: _____

Birth weight: _____ grams

Did mother receive antibiotics during labor or delivery?
O Yes (reason: _____ ; drug(s): _____)
O No
O Unknown

Previous diagnoses or treatments (*select all that apply*):
☐ None
☐ Mechanical ventilation
☐ Immunocompromising condition (e.g. Primary immunodeficiency)
☐ Gastrointestinal (GI) surgery
☐ Non-GI surgery (*specify*: _____)
☐ Other: _____
☐ Unknown

Did the patient receive any medications by mouth or feeding tube in the 10 days prior to illness onset?
O Yes O No O Unknown
If yes, please list oral medications given: _____

Has the infant ever been treated with steroids?
O Yes O No O Unknown

Did the infant receive gastric acid suppressing medications in the 10 days prior to illness onset?
O Yes O No O Unknown

FEEDING HISTORY

How was the infant fed 10 days prior to illness onset? (*Select all that apply*)

- ☐ Bottle
- ☐ Feeding Tube
- ☐ Breast
- ☐ Unknown

If infant was fed via feeding tube, specify tube type:

- ○ Nasogastric (NG) or Orogastric (OG) tube
- ○ Gastrostomy tube (G-tube)
- ○ Jejunostomy tube (J-tube)
- ○ Other
- ○ Unknown

In the 10 days before illness began was the infant ever fed breast milk? ○ Yes ○ No ○ Unknown

If yes, what source(s) of breast milk? ☐ Mother's milk ☐ Donor milk ☐ Informally shared breast milk ☐ Unknown

Was the infant exclusively breast fed? ○ Yes ○ No ○ Unknown

Was expressed breast milk consumed (i.e., pumped and fed through bottle or tube)? ○ Yes ○ No ○ Unknown

If yes, was pumped milk from multiple pumping sessions ever combined and then stored for later use? ○ Yes ○ No ○ Unknown

Was powdered infant formula or powdered breast milk fortifier used in the 10 days before illness began, including in the preparation of infant cereal? ○ Yes ○ No ○ Unknown

Did the infant consume liquid formula in the 10 days before illness began? ○ Yes ○ No ○ Unknown

Did the infant consume any solid foods, including cereal, in the 10 days before illness began? ○ Yes ○ No ○ Unknown

If yes, specify types of solid food: ☐ Infant cereal ☐ Purees ☐ Solid table food ☐ Unknown

If infant cereal was consumed, type of liquid used for preparing infant cereal (*select all that apply*)

☐ Ready-to-feed Liquid formula ☐ Powdered formula (mixed with water) ☐ Water ☐ Unknown

Was water used to prepare infant formula? ○ Yes ○ No ○ Unknown

Type of water used for preparing infant formula (*select all that apply*)

- ☐ Public water system (e.g. tap water from a municipal system)
- ☐ Individual water system (e.g. private well, cistern)
- ☐ Nursery water (specify brand and lot number): _____
- ☐ Commercially bottled or distilled water (specify brand and lot number): _____
- ☐ Other (specify): _____
- ☐ Unknown

Was the water boiled and cooled before adding to formula? ○ Yes ○ No ○ Unknown

How were formula and water mixed? (*select all that apply*)

- ☐ Shaken or swirled in bottle
- ☐ Stirred with a utensil
- ☐ Mixed in a blender
- ☐ Prepared in a formula-preparation machine
- ☐ Other (specify): _____
- ☐ Unknown

Was anything ever added to breast milk or formula (besides water) during the 10 days before illness? ○ Yes ○ No ○ Unknown

If yes, please select all that apply:

- ☐ Powdered fortifier (e.g., powdered formula or fortifier to boost nutrition)
- ☐ Liquid fortifier
- ☐ Commercial infant milk thickener
- ☐ Infant cereal
- ☐ Vitamins or iron
- ☐ Juice
- ☐ Other (specify): _____
- ☐ Unknown

Please provide infant formula preparation details (regardless of type)

What frequency was formula prepared?

- ○ Bottle/individual feed
- ○ Batch
- ○ Unknown

Where was prepared formula stored? (*select all that apply*)

- ☐ Refrigerator
- ☐ Cooler with ice or ice packs
- ☐ Outside of refrigerator/cooler
- ☐ Unknown

Maximum storage time of prepared, refrigerated formula

- ○ 0-24 hours
- ○ 24-48 hours
- ○ >48 hours
- ○ Unknown

Maximum storage time of prepared, room temperature formula

- ○ 0-2 hours
- ○ 2-6 hours
- ○ >6 hours
- ○ Unknown

What temperature was formula at time of feeding?

- ○ Warmed
- ○ Room temperature
- ○ Cold
- ○ Unknown

Was prepared feed ever left in a crib with infant overnight?
O Yes O No O Unknown

Was a partially consumed bottle that was at room temperature for more than 2 hours ever saved and given to the infant later?
O Yes O No O Unknown

Was the lid of the formula container ever placed on the counter, in the sink, or on another surface?
O Yes O No O Unknown

Was the formula scoop ever placed on the counter, in the sink, or on another surface?
O Yes O No O Unknown

Please provide equipment cleaning details

Were bottles, nipples, and rings always completely dissembled before cleaning?
O Yes O Unknown
O No O Not Applicable

Were bottles cleaned after each use?
O Yes O Unknown
O No O Not Applicable

How were bottles cleaned? (*select all that apply*)
☐ Diswasher ☐ With disposable wipes ☐ Other ☐ Unknown
☐ Hand washed in sink ☐ Rinsed with only water ☐ Not Applicable

Were bottles scrubbed using: (*select all that apply*)
☐ Fingers/hands
☐ Bottle brush
☐ Designated cloth or sponge for infant feeding
☐ Cloth or sponge used for cleaning other items
☐ Bottles not scrubbed
☐ Unknown

Was soap used when cleaning bottles?
O Always
O Sometimes
O Never
O Unknown

How were bottle parts dried? (*select all that apply*)
☐ Dried with dish towel
☐ Dried with paper towel
☐ Air dried
☐ Other (specify): _____
☐ Unknown

Were bottles, nipples, and/or rings sanitized? O Yes O No O Unknown O Not Applicable

If yes, how often were they sanitized?
O Daily
O Weekly
O Other (specify):
_____

How were parts sanitized? (*select all that apply*)
☐ Used dishwasher's hot water and heated drying cycles
☐ Used steam or microwave bottle sterilizer
☐ Boiled bottle parts
☐ Used bleach or other chemical disinfection method
☐ Unknown

Please provide breast pump equipment cleaning details

What type of pump was used (*select all that apply*)**?**
☐ Manual pump
☐ Electric pump used by one person
☐ Electric pump shared by multiple users
☐ Unknown
☐ Not Applicable

Were flanges, valves, membranes, and connector tubing always completely disassembled before cleaning?
O Yes
O No
O Unknown

Was the pump kit, not including tubing, cleaned after each use? O Yes O No O Unknown

If no, how many times was it used before being cleaned?
_____

Was kit rinsed between uses?
O Yes
O No
O Unknown

Where was unwashed kit stored between uses?
O Fridge
O Room temperature
O Unknown

How were pump and parts cleaned? (*select all that apply*)
☐ Dishwasher ☐ With disposable wipes
☐ Sink ☐ Unknown

Were pump and parts scrubbed using: (*select all that apply*)
☐ Fingers/hands
☐ Bottle brush
☐ Designated cloth or sponge for infant feeding
☐ Cloth or sponge used for cleaning other items
☐ Pump parts not scrubbed

Was soap always used when washing pump kit and parts?
O Yes
O No
O Unknown

How were pump parts dried? (*select all that apply*)
☐ Dried with dish towel
☐ Dried with paper towel
☐ Air dried
☐ Other (specify): _____
☐ Unknown

Was pump kit ever sanitized? O Yes O No O Unknown

If yes, how often were they sanitized?
O Daily
O Weekly
O Other (*specify*): _____
O Unknown

How were parts sanitized? (*select all that apply*)
☐ Used dishwasher's hot water and heated drying cycles
☐ Used steam or microwave bottle sterilizer
☐ Boiled pump parts
☐ Used bleach or other chemical disinfection method
☐ Unknown

Was clean pump kit ever reassembled while still damp? ○ Yes ○ No ○ Unknown

Please provide environmental details

Please provide infant formula product details

Complete product name (including brand, type, and variety): ____________________

Product manufacturer:
○ Abbott Nutrition
○ Mead Johnson Nutrition/Reckitt Benckiser
○ Nestle USA
○ Perrigo Company
○ Other, specify: ____________________
○ Unknown

Type of product:
○ Powder
○ Ready-to-feed
○ Liquid concentrate
○ Liquid fortifier
○ Other, specify: ____________________

Size of container: __________ ○ lbs ○ oz ○ fl. oz **OR** ○ grams ○ ml

Lot number(s), if known: ____________________ Use by Date: ____/____/______

Dates consumed: ____/____/______ to ____/____/______ ☐ Unknown dates consumed

Complete product name (including brand, type, and variety): ____________________

Product manufacturer:
○ Abbott Nutrition
○ Mead Johnson Nutrition/Reckitt Benckiser
○ Nestle USA
○ Perrigo Company
○ Other, specify: ____________________
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Size of container: __________ ○ lbs ○ oz ○ fl. oz **OR** ○ grams ○ ml

Lot number(s), if known: ____________________ Use by Date: ____/____/______

Dates consumed: ____/____/______ to ____/____/______ ☐ Unknown dates consumed

Specimen Collection

Lab ID: ________________

Specimen Source:
- O Blood
- O Cerebrospinal fluid (CSF)
- O Stool
- O Urine
- O Pharyngeal swab
- O Tracheal swab
- O Other clinical source (specify): ________________

Collection Date:	Results:	Test Type:	Was antibiotic testing completed?
___/___/_____	O Positive O Negative O Unknown	O Culture O PCR O Another Method	O Yes O No O Unknown

If yes, antibiotics with intermediate resistance: ________________

If yes, antibiotics with complete resistance: ________________

Lab ID: ________________

Specimen Source:
- O Blood
- O Cerebrospinal fluid (CSF)
- O Stool
- O Urine
- O Pharyngeal swab
- O Tracheal swab
- O Other clinical source (specify): ________________

Collection Date:	Results:	Test Type:	Was antibiotic testing completed?
___/___/_____	O Positive O Negative O Unknown	O Culture O PCR O Another Method	O Yes O No O Unknown

If yes, antibiotics with intermediate resistance: ________________

If yes, antibiotics with complete resistance: ________________

Lab ID: ________________

Specimen Source:
- O Blood
- O Cerebrospinal fluid (CSF)
- O Stool
- O Urine
- O Pharyngeal swab
- O Tracheal swab
- O Other clinical source (specify): ________________

Collection Date:	Results:	Test Type:	Was antibiotic testing completed?
___/___/_____	O Positive O Negative O Unknown	O Culture O PCR O Another Method	O Yes O No O Unknown

If yes, antibiotics with intermediate resistance: ________________

If yes, antibiotics with complete resistance: ________________