**Maryland Next Gen NCLEX Test Bank Project**

**April 27, 2023**

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| **Case Study Topic (and stand-alone bowtie)** | Pediatric Intussusception | **Author:** | Josh Saylor, DNP, RN, CPN –  Morgan State University |

**Case Summary**

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| A 32-month-old boy was brought to the emergency room by parent after reports of abdominal pain, vomiting, and mucous-like stools. Signs and symptoms indicate intussusception and diagnostic testing completed to confirm diagnosis and the treatment that is indicated. |

**Objectives**

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| 1. Determine significant findings during a pediatric GI emergent case  2. Differentiate between GI-related diagnoses  3. Recognize the hallmark signs of intussusception  4. Indicate appropriate diagnostic testing and orders for intussusception  5. Explain to parent the indicated treatment for intussusception  6. Recognize deterioration of patient after intussusception treatment |

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| **Case Study Link** | **Case Study QR Code** |
| <https://umaryland.az1.qualtrics.com/jfe/form/SV_09uUqCGJjPD6wQe> |  |
| **Bowtie QR Code Link** | **Bowtie Link** |
|  | <https://umaryland.az1.qualtrics.com/jfe/form/SV_9NzNP53i07Q2OOi> |

**Case References**

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| 1. *Ricci, S. S., Kyle, T., & Carman, S. (2021). Maternity and pediatric nursing. 4th ed. Philadelphia:Wolters Kluwer Health/Lippincott Williams & Wilkins.* 2. *Air Enema for Intussusception. (2022). Cincinnati Children’s. Retrieved from https://www.cincinnatichildrens.org/health/a/air-enema* |

**Case Study Screen 1 of 6**

The nurse cares for a 32-month-old boy in the emergency room with abdominal pain, vomiting, and mucous-like stools.

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| **Admission Notes** |
| 1150: A 32-month-old boy, with no significant medical history or allergies to any food or medications, was brought to the emergency room by his mother. The child is exhibiting inconsolability, fatigue, decreased appetite, nausea, vomiting, and diarrhea which the mother states has worsened over the last 18 hours. The child has intermittent pain on the right side of the abdomen and the presence of a palpable mass. Last reported stool was mucous-like with the appearance of blood. | |

* Select the 3 findings that are **most** significant.
* Decreased appetite
* Intermittent right-sided pain\*
* Fatigue
* Nausea
* Palpable mass\*
* Inconsolability
* Stool characteristics\*

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| **Score +/-**  Rationale: The location of the pain, the palpable mass, and change in stool characteristics are the most significant findings. These findings can help to start differentiating between potential GI-related issues. Decreased appetite, fatigue, nausea, and inconsolable crying are broad symptoms that can be contributed to many different issues. |

**Case Study Screen 2 of 6**

The nurse cares for a 32-month-old boy in the emergency room with abdominal pain, vomiting, and mucous-like stools.

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| **Admission Notes** |
| 1150: A 32-month-old boy, with no significant medical history or allergies to any food or medications, was brought to the emergency room by his mother. The child is exhibiting inconsolability, fatigue, decreased appetite, nausea, vomiting, and diarrhea which the mother states has worsened over the last 18 hours. The child has intermittent pain on the right side of the abdomen and the presence of a palpable mass. Last reported stool was mucous-like with the appearance of blood. | |
| **Nurses’ Notes** |
| 1200: Child alert and crying inconsolably at intervals, most notably when reported abdominal pain is occurring. Pulse 120, RR 20, BP 104/60, Temp 36.6 C (97.9 F), pulse oximetry 98% on room air. Nausea and vomiting present. Further assessment finds diminished bowel sounds in R upper and lower quadrants with a palpable sausage-like mass on the right side of the abdomen. Pull-up diaper removed to find traces of blood-tinged mucous-like stool. | |

Nurse conducts an initial patient assessment.

* For each finding, click to indicate if the finding is consistent with appendicitis, bowel obstruction, intussusception, or pyloric stenosis. Each finding may support more than one condition.

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| --- | --- | --- | --- | --- |
| Findings | Appendicitis | Bowel Obstruction | Intussusception | Pyloric Stenosis |
| Nausea and vomiting | * x | * x | * x | * x |
| Intermittent pain | * x | * x | * x |  |
| Sausage-shaped palpable mass |  |  | * x |  |
| Mucous-like and bloody stools |  |  | * x |  |
| Decreased appetite | * x | * x | * x |  |
| Fatigue | * x | * x | * x | * x |
| Hypoactive bowel sounds | * x | * x | * x | * x |

Note: Each column must have at least 1 response option selected.

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| **Score +/-**  Rationale: Intussusception has hallmark signs of sausage-shaped palpable mass and jelly-like (bloody) stools. Nausea, vomiting, fatigue, and hypoactive bowel sounds could be indicative of any of the listed diagnoses. Pyloric stenosis differs in that vomiting is typically projectile, little pain is associated with the condition, and appetite typically increases. Hallmark sign of appendicitis is pain specifically located at McBurney’s point in the RLQ and a positive sign would be once clinician places slow pressure on the abdomen, the presence of severe pain occurs when pressure is released. |

**Case Study Screen 3 of 6**

The nurse cares for a 32-month-old boy in the emergency room with abdominal pain, vomiting, and mucous-like stools.

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| **Admission Notes** |
| 1150: A 32-month-old boy, with no significant medical history or allergies to any food or medications, was brought to the emergency room by his mother. The child is exhibiting inconsolability, fatigue, decreased appetite, nausea, vomiting, and diarrhea which the mother states has worsened over the last 18 hours. The child has intermittent pain on the right side of the abdomen and the presence of a palpable mass. Last reported stool was mucous-like with the appearance of blood. | |
| **Nurses’ Notes** |
| 1200: Child alert and crying inconsolably at intervals, most notably when reported abdominal pain is occurring. Pulse 120, RR 20, BP 104/60, Temp 36.6 C (97.9 F), pulse oximetry 98% on room air. Nausea and vomiting present. Further assessment finds diminished bowel sounds in R upper and lower quadrants with a palpable sausage-like mass on the right side of the abdomen. Pull-up diaper removed to find traces of blood-tinged mucous-like stool. | |

* Drag 1 condition and 1 finding to fill in the blanks of the following sentence.

The client is most likely experiencing

as evidenced by the

|  |  |  |
| --- | --- | --- |
| Conditions |  | Findings |
| Appendicitis |  | Vomiting |
| Bowel Obstruction |  | Hypoactive Bowel Sounds |
| Intussusception\* |  | Sausage-shaped palpable mass\* |
| Pyloric Stenosis |  | Intermittent Pain |

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| **Score rationale rule**  Rationale: A sausage-shaped palpable mass is a hallmark sign of intussusception. Vomiting, pain, and hypoactive bowel sounds could indicate a number of potential GI related problems. |

**Case Study Screen 4 of 6**

The nurse cares for a 32-month-old boy in the emergency room with abdominal pain, vomiting, and mucous-like stools.

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| **Admission Notes** |
| 1150: A 32-month-old boy, with no significant medical history or allergies to any food or medications, was brought to the emergency room by his mother. The child is exhibiting inconsolability, fatigue, decreased appetite, nausea, vomiting, and diarrhea which the mother states has worsened over the last 18 hours. The child has intermittent pain on the right side of the abdomen and the presence of a palpable mass. Last reported stool was mucous-like with the appearance of blood. | |
| **Nurses’ Notes** |
| 1200: Child alert and crying inconsolably at intervals, most notably when reported abdominal pain is occurring. Pulse 120, RR 20, BP 104/60, Temp 36.6 C (97.9 F), pulse oximetry 98% on room air. Nausea and vomiting present. Further assessment finds diminished bowel sounds in R upper and lower quadrants with a palpable sausage-like mass on the right side of the abdomen. Pull-up diaper removed to find traces of blood-tinged mucous-like stool.  1215: ED physician notified of assessment findings. Physician suspects intussusception and will put in orders and interventions for the client. | |

Based on the physician response the nurse anticipates potential orders and nursing interventions.

* For each potential nursing or collaborative intervention, click to specify whether the intervention is indicated or not indicated to include in the plan of care.

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| Potential Intervention | Indicated | Not indicated |
| Complete blood count (CBC) | * \* |  |
| Basic metabolic panel (BMP) | * \* |  |
| Abdominal ultrasound | * \* |  |
| Barium swallow (upper GI) |  | * \* |
| NPO status | * \* |  |
| Prone position |  | * \* |

Each row must have one selection.

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| **Score 0/1**  Rationale: Symptoms are indicative of intussusception. Blood work will be ordered to determine if elevated WBC or an electrolyte imbalance (from the vomiting/diarrhea). Abdominal imaging important in confirming diagnosis. NPO status to remain in case of need for GI surgery. No indications for Barium Swallow (upper GI diagnostic) test or for patient to be in prone position. |

**Case Study Screen 5 of 6**

The nurse cares for a 32-month-old boy in the emergency room with abdominal pain, vomiting, and mucous-like stools.

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| **Admission Notes** |
| 1150: A 32-month-old boy, with no significant medical history or allergies to any food or medications, was brought to the emergency room by his mother. The child is exhibiting inconsolability, fatigue, decreased appetite, nausea, vomiting, and diarrhea which the mother states has worsened over the last 18 hours. The child has intermittent pain on the right side of the abdomen and the presence of a palpable mass. Last reported stool was mucous-like with the appearance of blood. | |
| **Nurses’ Notes** |
| 1200: Child alert and crying inconsolably at intervals, most notably when reported abdominal pain is occurring. Pulse 120, RR 20, BP 104/60, Temp 36.6 C (97.9 F), pulse oximetry 98% on room air. Nausea and vomiting present. Further assessment finds diminished bowel sounds in R upper and lower quadrants with a palpable sausage-like mass on the right side of the abdomen. Pull-up diaper removed to find traces of blood-tinged mucous-like stool.  1215: ED physician notified of assessment findings. Physician suspects intussusception and will put in orders and interventions for the client.  1250: Child taken for diagnostic testing.  1325: Testing confirmed diagnosis of intussusception. Treatment plan to include an order for client to have air enema. | |
| **Diagnostic Reports** |
| Diagnostic ultrasound imaging notes a round mass with a target bowel-in-bowel appearance in the transverse plain. There is no apparent perforation of the bowel noted at this time.  **Impression:** Appearance consistent with diagnosis of intussusception.  **Recommendation**: Use of air or contrast fluid enema. | |

Diagnostic testing returns and the child receives a diagnosis of intussusception.

* What should the nurse teach the parent about the treatment plan? **Select all that apply**.
* A surgeon will explain the diagnosis, procedure, and any potential complications to you.\*
* Fluoroscopy is a type of real-time x-ray imaging that will be used during procedure.\*
* Parents are not allowed to be present during the exam.
* A soft tube is inserted into rectum allowing air to be pumped through tube.\*
* General anesthesia will be used to keep the child asleep during the procedure.
* Additional radiology imaging may be used to confirm there are no perforations in the bowel.\*
* Antibiotics will be prescribed after the procedure.

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| **Score +/-**  Rationale: The target bowel-in-bowel appearance, “bull’s eye” sign, is characteristic with a diagnosis of intussusception and often seen through diagnostic imaging such as an ultrasound, the bowel is telescoping in on itself. Surgeon will be consulted in case air/contrast enema is unsuccessful. A parent is allowed to remain with the child to help comfort during this procedure as anesthesia is not used. A soft tube is inserted into the child’s rectum in which the radiologist will pump air. Active imaging (fluoroscopy) is used to determine if the telescopic bowel returns to normal position. No indications for antibiotics with this procedure. |

**Case Study Screen 6 of 6**

The nurse cares for a 32-month-old boy in the emergency room with abdominal pain, vomiting, and mucous-like stools.

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| **Admission Notes** |
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| **Nurses’ Notes** |
| 1200: Child alert and crying inconsolably at intervals, most notably when reported abdominal pain is occurring. Pulse 120, RR 20, BP 104/60, Temp 36.6 C (97.9 F), pulse oximetry 98% on room air. Nausea and vomiting present. Further assessment finds diminished bowel sounds in R upper and lower quadrants with a palpable sausage-like mass on the right side of the abdomen. Pull-up diaper removed to find traces of blood-tinged mucous-like stool.  1215: ED physician notified of assessment findings. Physician suspects intussusception and will put in orders and interventions for the client.  1250: Child taken for diagnostic testing.  1325: Testing confirmed diagnosis of intussusception. Treatment plan to include an order for client to have air enema.  1400: Radiologist and tech to perform air enema, parent present holding child’s hand during procedure.  1415: Abdomen is distended, inconsolable crying, FLACC 10/10. | |
| **Diagnostic Reports** |
| Diagnostic ultrasound imaging notes a round mass with a target bowel-in-bowel appearance in the transverse plain. There is no apparent perforation of the bowel noted at this time.  **Impression:** Appearance consistent with diagnosis of intussusception.  **Recommendation**: Use of air or contrast fluid enema. | |

The nurse remains in the room with the patient and parent after the procedure.

* Complete the following sentence by choosing from the list of options.

|  |  |  |
| --- | --- | --- |
| The nurse determines the client’s status is | Select | |
| improving | |
| deteriorating \* | |
| unchanged | |
| The nurse should now |  | |
| Select  prepare patient for a second air enema  page the gastrointestinal surgeon\*  administer oral pain medication. | |
| **Score 0/1**  Rationale: The distended abdomen and inconsolable pain could be indicative of a perforated bowel from the procedure of the air enema. Successful air enema should resolve pain and distention should pass as gas from the client. This situation would lead the nurse to page the GI surgeon and prepare for potential surgical interventions. | |

**Bowtie Template**

The nurse cares for a 32-month-old boy in the emergency room with abdominal pain, vomiting, and mucous-like stools.

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| **Admission Notes** |
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| **Nurses’ Notes** |
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* Complete the diagram by dragging from the choices below to specify what condition the client is most likely experiencing, 2 actions the nurse should take to address that condition, and 2 parameters the nurse should monitor to assess the client’s progress.

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| Actions to take |  | Parameter to monitor |
|  | Condition most likely experiencing |  |
| Actions to take |  | Parameter to monitor |
|  |  |  |
| **Actions to take** | **Potential conditions** | **Parameters to monitor** |
| Request a stat abdominal ultrasound \* | Appendicitis | Intake and output |
| Treat with antibiotics | Bowel Obstruction | Vital signs |
| Prepare for an air or contrast enema\* | Intussusception\* | Stool characteristics\* |
| Place in prone position | Pyloric Stenosis | Presense of abdominal mass\* |
| Prepare for a barium swallow test |  | Crying |

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| **Score 0/1**  Rationale: Intussusception has hallmark signs of sausage-shaped palpable mass and jelly-like (bloody) stools. Nausea, vomiting, fatigue, and hypoactive bowel sounds could be indicative of any of the listed diagnoses. Intussusception is diagnosis is confirmed through imaging and is typically treated with air or contrast enema. Pyloric stenosis differs in that vomiting is typically projectile, little pain is associated with the condition, and appetite typically increases. Hallmark sign of appendicitis is pain specifically located at McBurney’s point in the RLQ and a positive sign would be once clinician places slow pressure on the abdomen, the presence of severe pain occurs when pressure is released. |