

## **CASE STUDY- FLUID & ELECTROLYTES**

An 87-year old female, with a 3-day history of intermittent abdominal pain, abdominal bloating, and nausea and vomiting, came to the Emergency Department. She moved from Puerto Rico to join her grandson and his family only 2 months ago and speaks very little English. All information was obtained through her grandson.

PMH includes an abdominal hysterectomy 12 years ago and an inguinal hernia repair 2 years ago. She has no history of coronary artery disease (CAD), diabetes mellitus (DM), or pulmonary disease. She takes only ibuprofen (Motrin) occasionally for mild arthritis. She has NKDA.

Her tentative medical diagnosis is small bowel obstruction secondary to adhesions. She is admitted to the hospital for a diagnostic work-up.

Vital signs are Blood Pressure 134/84 mmHg, Pulse 84 beats/minute, Respirations 20/minute and Temperature 97.2° F (36° C). An IV of D5 ½ NS with 20 mEq of Potassium Chloride (KCL) at 100 ml/hr is started. Nasal O<sub>2</sub> at 2L is also ordered.

### **1. What are the risk factors this client has for developing fluid and electrolyte imbalances?**

Her grandson, an attorney, tells you that elderly women are extremely modest and may not answer questions completely.

### **2. What assessments should a nurse make?**

With some difficulty an NGT is inserted and connected to intermittent low wall suction (LWS). The NGT suddenly drains 575 mL and then slows to about 190 mL every hour.

### **3. Is this an expected amount?**

After 3 days of NGT suctioning the client's symptoms are unrelieved. She reports continued nausea, cramping, and sometimes very strong abdominal pain. She seems increasingly lethargic.

You look up her latest lab values and compare them to the admission data. Na from 136 to 132mEq/L, K has changed from 3.7 to 2.8mEq/L, Cl from 108 to 97mEq/L, G 126 to 79, CO<sub>2</sub> from 25 to 31mEq/L, BUN from 19 to 31mg/dL and Cr from 1 to 1.6mg/dL.

- 4. What lab values are abnormal?**
- 5. What is the significance of these abnormal lab values?**
- 6. What signs and symptoms might the client experience because of these lab values?**
- 7. Identify four appropriate nursing diagnoses for this client?**
- 8. Which nursing diagnosis is the priority? Why?**
- 9. Identify a short-term outcome for each of the nursing diagnoses.**
- 10. Identify nursing interventions that you would provide based on the above lab values?**
- 11. What IV fluid should this patient be receiving?**
- 12. Is there any further electrolyte replacement required?**

In view of the client's continued slow deterioration the surgeon meets with the patient and her family and they agree to surgery. A small bowel resection is performed for ischemic bowel. She tolerates the procedure well and recovered rapidly from anesthesia in the PACU. On the unit her recovery was slow and steady. She went home on the 7<sup>th</sup> day post-op with her grandson.