CASE STUDY – FLUID & ELECTROLYTES

An 87-year 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 nod history of coronary artery disease, diabetes or pulmonary disease. She takes only ibuprofen occasionally for mild arthritis. She has no known drug allergies (NKDA).

Vital signs are: Blood Pressure 134/84, Pulse 84 beats/minute and regular, Respirations 20/minute and Temperature 97.2º F (36.2 ºC). An IV of D₅ ½ NS with 20 mEq KCl at 100 mL/hour is started Nasal O₂ at 2 L is also ordered.

1. What are some risk factors in this patient 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. How might you gather information in this case?

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

3. Is this an expected amount of drainage from the NGT?
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 laboratory test values and compare them to the admission data. Na from 136 to 132 mEq/L, K has changed from 3.7 to 2.8 mEq/L, Cl from 108 to 97 mEq/L, G from 126 to 79, CO₂ from 25 to 31 mEq/L, BUN form 19 to 31 mg/dL and Cr from 1 to 1.6 mg/dL.

4. What lab values are of concern to you and why?

5. What are the reasons for these abnormal lab values?

6. What signs and symptoms might the client experience because of these lab values?

7. What are some appropriate nursing diagnoses for this client?
8. What are some nursing interventions that you would provide based on the above lab values?

9. What IV solution should this client be receiving?

10. Is there any further electrolyte replacement required?

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