





## Case Study

# Nursing of Hypovolemia in Patients with Melena's Hematemesis: A Case Study

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ARTICLE INFO	ABSTRACT
<p>Article History:            Submit : May 7, 2022            Revised : May 24, 2022            Accepted : Dec 18, 2022</p> <p>Keywords:            Hypovolemia, Hematemesis,            Melena, Nursing Care</p>	<p><b>Background:</b> Hematemesis melena is a patient's condition with black stools or stools caused by upper gastrointestinal bleeding. Hypovolemic patients with hematemesis melena usually experience nausea, vomiting, and diarrhea. This study aims to describe nursing care for hypovolemia in patients with hematemesis melena.</p> <p><b>Methods:</b> This research method uses a case study design. Data collection started from assessment to evaluation in the Kasuari ward of Simpang Lima Gumul Hospital in December 2021. The hematemesis melena patient was observed or treated for at least two days. Data collection techniques were carried out through interviews, observation, and documentation. Data analysis was carried out using narrative analysis.</p> <p><b>Results:</b> assessment of Mr. P with the main complaint complaining of vomiting blood for ±10 days, abdominal pain, weakness, black stools for ±10 days, and urinating for five days. The nursing diagnosis in the case of Mr. P is the actual diagnosis with priority hypovolemia related to functional fluid loss (D.0023). Nursing intervention for Mr. P was compiled based on the diagnosis of hypovolemia using pharmacological techniques such as antibiotics.</p> <p><b>Conclusion:</b> The patient showed a not-so-significant decrease because the patient still had time to vomit blood and bloody stool.</p>
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## Introduction

Hematemesis is vomiting blood, and melena is the discharge of black, tea-colored stools or stools caused by bleeding from the upper digestive tract. The color of hematemesis depends on the duration of the relationship or contact between the blood and stomach acid and the size of the bleeding so that it can be coffee-colored or reddish and lumpy (Sjaifoellah Noer. Prof. dr, 2013). Hematemesis is a regurgitation of blood or

blood mixed with gastric contents, while melena is the discharge of dark, black, and soft stools and has a distinctive and robust odor. The activity of SCBA bleeding causes this distinctive and pungent odor, usually caused by digestive enzymes and gut bacteria on hemoglobin (Alexander et al., 2022).

Gastrointestinal (GI) bleeding is also a symptom of digestive tract disorders. Discharged blood often appears along with feces or vomit, usually fresh red, and the texture of the stool is very soft and black. The



degree of GI bleeding varies. It can range from mild-moderate to severe and even life-threatening (Clinic, 2020). Upper gastrointestinal bleeding is a common medical condition encountered in clinical practice. SCBA bleeding usually appears as melena or hematemesis and can even appear as hematochezia in cases of rapid bleeding (Kamboj et al., 2019; Smeltzer, 2014). Epistaxis is a common condition that is sometimes overlooked and can usually present as hematemesis and melena (Yano et al., 2020). Hematemesis, melena, and hematochezia are symptoms of bleeding in the acute gastrointestinal tract. This incident is a severe matter and an emergency that must be received seriously and can specifically be addressed until and is evaluated (PRADITYA, 2022; ROFIKOH, 2018; Wilson et al., 2018).

The incidence of hematemesis melena in western countries reaches 100 to 160 cases per 100,000 population or 400,000 per year, with the most common cause in the United States being peptic ulcers, around 40% (Hapsari, 2017). In western countries, bleeding due to peptic ulcer is Indonesia, most common, while bleeding due to rupture of gastroesophageal varies is the most common cause, which is around 50% - 60%, hemorrhagic erosive gastritis is around 25% - 30%, peptic ulcer is around 10% - 15% and because other causes <5%. Mortality for hematemesis melena is still high, which is around 25%. Mortality in patients with varicose rupture can reach 60%, while death in bleeding non varicose veins is around 95 - 12% (Devi et al., 2022; DU, 2013; Kusuma Wardhani & Windartik, 2022).

According to gender and age group of cases of upper gastrointestinal bleeding, among others, gastric ulcers are more common in men compared to women, usually occurring in the 55 - 70 years age group, whereas in duodenal ulcers, the most common age is 45-65 years with a tendency to worsen: the older the age, the prevalence increases. In addition, gastric cancer in men is twice as common as in

women. Most cases of gastric cancer occur in the age group of 50-70 years and rarely under the age of 40 (Azmi et al., 2013; Kriswantoro et al., 2021; NUR ALITA, 2022). Many people with melena hematemesis do not realize that they have melena because the bleeding occurs in the proximal jejunum, and melena can occur alone or with hematemesis. The amount of blood removed is 50 - 100 ml (Amin, 2015; Fadila, 2014; Wilson et al., 2018). Patients who experience hematemesis melena usually present with complaints or symptoms of black stools and bloody stools (Amin, 2015). Clinical manifestations that appear in patients with hematemesis melena describe morphological changes better and describe the severity of the damage. These include typical symptoms such as intestinal anorexia, nausea, vomiting with bright light colors, dysphagia (difficulty swallowing), black and sticky stools, changes in peripheral circulation such as pale skin color, decreased capillary refill, and cold extremity palpation (Fadila, 2014; Kusuma Wardhani & Windartik, 2022).

## Methods

This research uses a case study design. A case study is a study to collect, organize, and analyzes data about several cases concerning the researcher's problem (Luthfiyah, 2017 in Okvisanti et al., 2021). Data collection starts from assessment or assessment to the nursing evaluation carried out in the Kasuari inpatient room at Simpang Hospital, Lima Gumul Kediri Regency, in December 2021. Hematemesis Melena patients treated in the inpatient room were observed or treated for at least three days, but the authors observed and cared for only two days because the service schedule had been completed. If the patient has gone home or is referred to another hospital three days before, replacing another patient with the exact case is necessary. Data collection techniques using interviews, observation, and documentation were carried out using narrative analysis. In

this case study, the authors are guided by ethical principles and SOPs by providing informed consent and maintaining the confidentiality of patient data (Okvisanti et al., 2021). This paper aims to understand the definition, etiology, pathogenesis, and how to diagnose hematemesis melena to know the management and complications of hematemesis melena (Fadila, 2014). Research has obtained Ethical Clearance.

## Results

Mr. P, 56 years old, comes to the ER with the complaint of the patient complaining of vomiting blood for ten days and black stools for ten days accompanied by bloody stools. Examination of vital signs is as follows: blood pressure 164/60 mmHg, temperature 36 degrees Celsius, respiration 20x/minute, pulse 90x/minute, compos mentis consciousness. The patient was immediately taken and admitted to the inpatient room for further treatment. Medical history Mr. P previously stated that he had no history of dangerous and infectious diseases. The patient also said that all family members were healthy and had no history of hematemesis melena or other dangerous hereditary diseases.

Physical examination was found in the abdominal area, and inspection showed no abdominal distension. Auscultation heard bowel sounds eight times/minute, palpation there was tenderness from the lower abdomen penetrating to the waist, and on percussion, a tympanic sound was heard. Result Laboratory examination of Mr. P and abnormal ranges were as follows: hemoglobin g/dl on and December December g/10 dl 11 (N 3.2 10 = 13-18 g/dl), erythrocytes 1.18 million/mL (N = 4.3 – 6 million/mL), hematocrit 9.1% (N = 45% - 50%), Urea levels 433 mg/dL (N = 10 – 50 mg/dL), creatinine 23.42 mg/dL (N = < 1.2 mg/dL) and there is +3 protein in the urine (N = Negative). Physical examination was found in the abdominal area, and inspection showed no abdominal distension. Auscultation heard

bowel sounds eight times/minute, palpation there was tenderness from the lower abdomen penetrating to the waist, and on percussion, a tympanic sound was heard. RESULTS Medical history Mr. P previously stated that he had no history of dangerous and infectious diseases. The patient also said that all family members were healthy and had no history of hematemesis melena or other dangerous hereditary diseases.

The therapy was given to Mr. P through oral and injection. Oral therapy includes: Sucralfate 4x15cc, Rebamipide 3x1 gr, Nacid 3x2 tabs, Folic acid 3x1 mg, Hemafort 1x1 tab, Nabik 3x2 mg, Amlodipine 1x10 mg, Valsartan 1x80 mg, and for injection therapy include: Infusion of PZ 500cc, Ceftriaxone 2x1, Tranexamic Acid 3x500, Ondancetron 2x8 mg, Furosemide 1x1 if BP > 100mmHg, Vit K 3x1. Nursing diagnoses that arise based on nursing problems Nursing and Diagnostic the Indonesian Standards are Hypovolemia (D.0023) associated with active fluid loss (PPNI, 2018), which is characterized by: Subjective data, the blood patient for days, ten days, vomiting bowel movements are black for 10 days and BAK blood. Objective data, the patient looks weak, the mucous membranes are dry, the color of the stool is black, the urine is fresh red, the catheter is attached, the NGT is installed, the Hb level has decreased by 3.2 gr/dL (on the 10th), On the 11th the Hb level was 10 g/dL, erythrocyte levels decreased by 1.18 million/ mL, Hct decreased by 9.1%, high urea levels were 433 mg/dL, and there was protein in the urine.

The nursing goal achieved is that after being treated in the inpatient room for two days, the patient is expected to show improvement in fluid status (L.03028) (PPNI, 2018), with the first result criteria being that feeling of weakness decreases, Hb levels improve, Hct levels improve, mucous membranes improve. The second goal and outcome is a decrease in the level of bleeding (L.02017) (PPNI, 2018b) with the criteria for

decreased hematemesis, decreased hematuria, and improved hemoglobin.

Nursing interventions taken based on the problem Nursing and Indonesian Nursing intervention Standards is Hypovolemia Management (I.03116) (PPNI, 2018a) which includes checking for signs and symptoms of hypovolemia and monitoring fluid intake and output, calculating fluid requirements and providing oral fluid intake, recommending avoiding sudden position changes, collaborating in the administration, collaboration of blood products intravenous in and fluid administration. Nursing implementation has been carried out following the interventions that have been prepared. Evaluations using the SOAP method (Subjective, Objective, Assessment, and Planning) are carried out at the end of each shift assignment. After two days of treatment, the patient showed little by minor intake, but the color of urine was still red, and on the third day, the patient was planned to be referred to another hospital.

## Discussion

This study aims to describe nursing care for hypovolemia in patients with hematemesis melena. Based on the nursing assessment in this case study, the patient with hematemesis melena was male and included in old adulthood. The main complaint of patients in this study was vomiting blood and bloody stool. The urine was bloody. Apart from complaints on physical examination, there were bowel sounds as much as 8 times/minute, and there was pain from the lower abdomen penetrating to the back of the waist. Still red, and on the third day, the patient was planned to be referred to another hospital—outside bloody. Hemorrhagic erosive gastritis is the second most common cause of upper gastrointestinal bleeding. On endoscopy, erosion at the angle, multiple atriums, some bleeding scars, or active bleeding can be seen at the site of erosion if the hemoglobin is < 8

g/dl or the bleeding is massive, and there are signs of circulatory failure, the patient can be given a transfusion (Kamboj et al., 2019; Okvisanti et al., 2021; Yano et al., 2020).

The appropriate diagnosis of the patient's problem is based on the data obtained during the assessment. The main complaint felt by the patient, where the main complaint is defecation of black and bloody stool. Hypovolemia is associated with functional fluid loss, characterized by the patient saying 10 days of (Azmi et al., 2013; Hapsari, 2017; Sriwiyanti et al., 2022). After evaluating the nursing care that has been given to Mr. P, obtained the final result of the problems experienced by Mr. P is only partially resolved because the color of the bladder is still fresh red, and the hemoglobin is still decreasing. In addition, the catheter and NGT are still attached.

## Conclusion

Mr. P with the main complaint of vomiting blood, black stools, and bloody stools. Decreased Hb, Hct, protein content in urine, and high urea levels characterize it. The nursing diagnosis in the case of Mr. P is the actual diagnosis of hypovolemia related to functional fluid loss (D.0023). Nursing intervention for Mr. P is arranged based on hypovolemia, the priority using the diagnosis of pharmacological and non-pharmacological techniques, as well as antibiotics. In the implementation of nursing, there is conformity with the interventions that have been prepared. At the evaluation stage nursing problem of Mr. P with hypovolemia was partially resolved within two days, and on the third day planned to be referred to another hospital.

## Authors Contributions

The author carries out tasks from data collection, data analysis, making discussions to making manuscripts.



## Conflicts of Interest

There is no conflict of interest.

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