CLINICAL CASE CREATIVE ANALYTICAL DISCUSSION

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OUTLINE

I. CASE
II. Differential Diagnosis
III. Salient points of the case
IV. Missing Points fo the case
    A. Clinical Hx
    B. PE
    C. Diagnostics
V. Diagnosis
    A. Clinical Presentation
    B. Pathogenesis
    C. Work-ups

VI. Management
    A. GI Bleeding
    B. Type 2 DM
    C. Anemia

VII. Impact of illness n the family

VIII.Community awareness

IX. Patient education

X. Geriatric Care

XI. Research article

Bai Paquit, 87 year old widow, has poorly controlled Type 2 DM for more than 10 years. She is rigid in her religious rituals and practices which is a strong deterrent to self-care and adherence to therapeutic regimen. 14 days ago, she noticed her “stools to be colored black and foul-smelling”. CBC = RBC-2.7; Hgb-63; Hct-32; WBC-7

CASE

DIFFERENTIAL DIAGNOSIS

DDx	RULE IN	RULE OUT
• Mallory-Weiss Tear	(+) Melena	(-) vomiting(-)retching (-) coughing preceding hematemesis, (-) epigastric pain, (-) alcohol use
• Peptic Ulcer Disease	(+) Melena	(-) H. pylori infection, (-) NSAIDs, (-) alcohol use, (-) smoking
• Erosive gastritis/esophagitis	(+) Melena	(-) NSAID use, (-) sore throat, (-) dysphagia, (-) heartburn
• Esophageal varices	(+) Melena	(-) Cirrhosis or portal hypertension
	(+) Advanced age	(-) Familial Cancer Syndromes
• Malignancy	(+) Melena	(-) More common in males

Clinical Diagnosis:
GI Bleeding, Diabetes, Anemia

SALIENT FEATURES

- female
- 87
- Widow

- Has poorly controlled Type 2 Diabetes
- Chief Compliant: *“stools to be colored black and foul-smelling”*
- Complete blood count
  - RBC- 2.7
  - Hgb-63
  - Hct-32
  - WBC-7

Patient's CBC

- RBC- 2.7
- Hgb-63
- Hct-32
- WBC-7

Blood component	Abbreviation used	Reference range	SI Reference range
White blood cells	WBC	4500-11,000/mm^3	4.5-11.0 x 10^9/L
Red blood cells*	RBC	Male: 4.3-5.9 million/mm^3 Female: 3.5-5.5 million/mm^3	Male: 4.3-5.9 x 10^{12}/L Female: 3.5-5.5 x 10^{12}/L
Hemoglobin*	HGB	Male: 13.5-17.5 g/dL Female: 12.0-16.0 g/dL	Male: 2.09-2.71 mmol/L Female: 1.86-2.48 mmol/L
Hematocrit*	HT	Male: 41%-53% Female: 36%-46%	Male: 0.41-0.53 Female: 0.36-0.46
Mean corpuscular volume	MCV	80-100 μm^3	80-100 fl
Mean corpuscular hemoglobin	MCH	25.4-34.6 pg/cell	0.39-0.54 fmol/cell
Mean corpuscular hemoglobin concentration	MCHC	31%-36% Hb/cell	4.81-5.58 mmol Hb/L
Platelets	Platelets	150,000-400,000/mm^3	150-400 x 10^9/L

Dean L. Blood Groups and Red Cell Antigens [Internet]. Bethesda (MD): National Center for Biotechnology Information (US); 2005. Table 1, Complete blood count. Available from: https://www.ncbi.nlm.nih.gov/books/NBK2263/table/ch1.T1/

MISSING POINTS

- General Data
- History of Present Illness
    - “black tarry stools” – patient is asked for the quality, quantity or severity, timing, including onset, duration, and frequency, setting in which it occurred, aggravating and relieving factors, associated manifestations (patient should be asked for other bleeding manifestations such as syncope, unintentional weight loss, change in bowel habits)

- Drug History

- Did she frequently used NSAIDs, anticoagulants, or antiplatelet agents? Were there any medications taken for her present complaint?

- Family History

- Family relatives who have Diabetes Mellitus, Renal Disease, Anemia, and Cancer?

MISSING POINTS

- Review of System
- Any pertinent findings?

- Past Medical History
- Patient is asked about prior episodes of upper GI bleeding, previous hospitalizations/ abdominal surgeries or a history for ulcers or an infection with H. Pylori

- Social History
- Does the patient smoke? Is she a heavy alcohol user?

- Physical examination

-Any pertinent findings? What are the patient's vital signs? What is the appearance of the skin?

- Laboratory findings

- Were there other laboratory exams that's been requested?

What is GI Bleeding ?

- Is a symptom disorder in digestive tract.
- Blood is often appears in stool or vomit but isnt always visible
- Cause the stool to look black or tarry
- Signs and symptoms depend on the location of the bleed-upper or lower GI tract.

Causes of GI Bleeding

Upper GI bleeding

Peptic ulcer. This is the most common cause of upper GI bleeding.

Tears in the lining of the tube that connects your throat to your stomach (esophagus). Known as Mallory-Weiss tears, they can cause a lot of bleeding. These are most common in people who drink alcohol to excess.

Abnormal, enlarged veins in the esophagus (esophageal varices). This condition occurs most often in people with serious liver disease.

Esophagitis. This inflammation of the esophagus is most commonly caused by gastroesophageal reflux disease (GERD)

Causes of GI Bleeding

Causes of GI Bleeding

Lower GI bleeding

Diverticular disease. This involves the development of small, bulging pouches in the digestive tract (diverticulosis).

Inflammatory bowel disease (IBD). This includes ulcerative colitis, which causes inflammation and sores in the colon and rectum, and Crohn's disease, and inflammation of the lining of the digestive tract.

Tumors. Noncanerous (benign) or cancerous tumors of the esophagus, stomach, colon or rectum can weaken the lining of the digestive tract and cause bleeding.

Colon polyps. Small clumps of cells that form on the lining of your colon can cause bleeding. Most are harmless, but some might be cancerous or can become cancerous if not removed.

Hemorrhoids. These are swollen veins in your anus or lower rectum, similar to varicose veins.

Anal fissures. These are small tears in the lining of the anus.

Proctitis. Inflammation of the lining of the rectum can cause rectal bleeding.

Diagnosis

Rapid assessment and resuscitation for unstable patients

Patients with severe bleeding should be admitted to an intensive care unit for resuscitation and close observation.

consider transferring a patient with significant upper gastrointestinal bleeding to a tertiary medical center based on local expertise and the availability of facilities.

Pathogenesis

Upper gastrointestinal bleeding includes hemorrhage originating from the esophagus to the ligament of Treitz.

Peptic ulcer bleeding causes more than 60 percent of cases of upper gastrointestinal bleeding, whereas esophageal varices cause approximately 6 percent.

Other etiologies include arteriovenous malformations, Mallory-Weiss tear, gastritis and duodenitis, and malignancy.

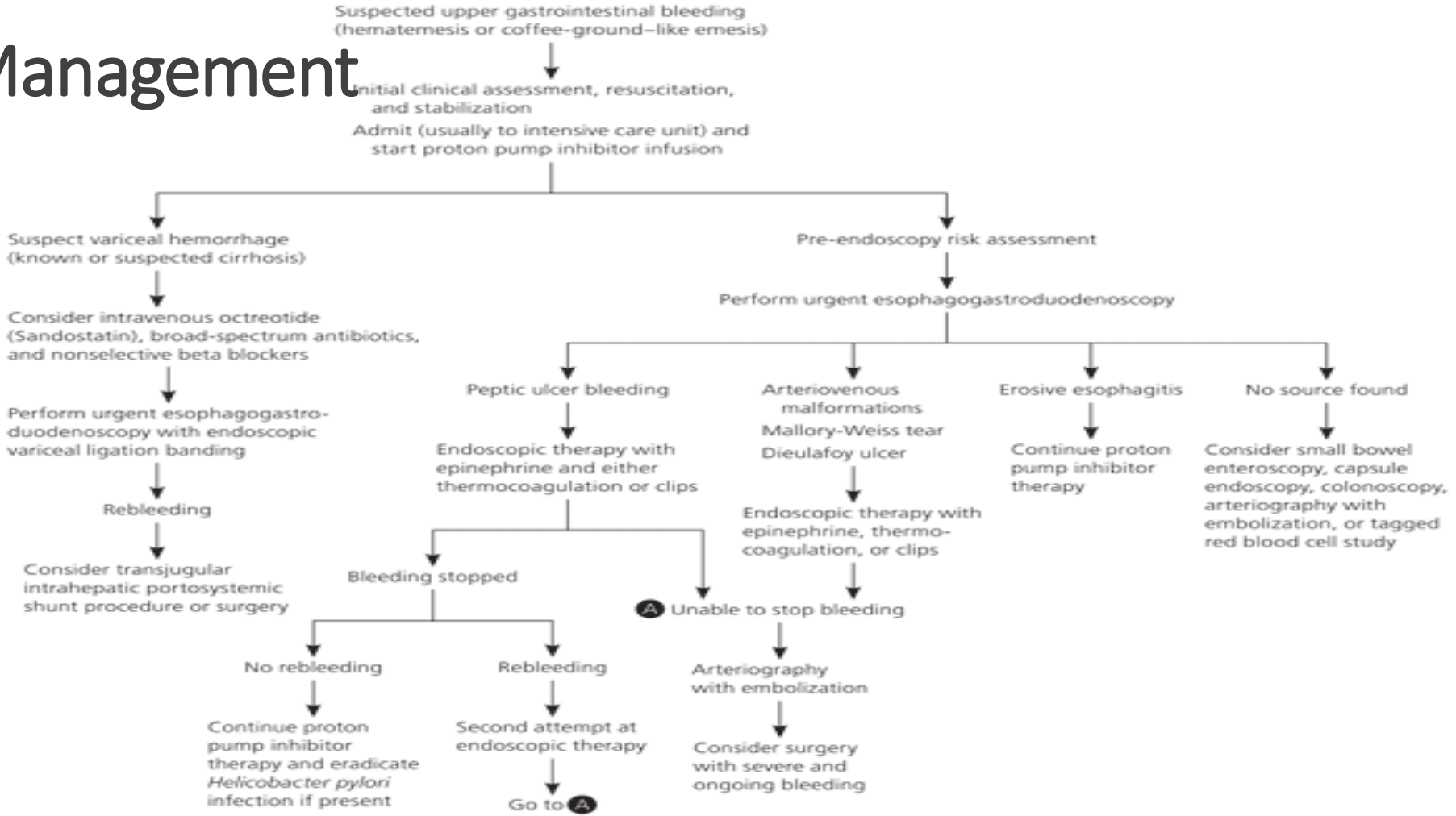
Work-ups

Upper endoscopy — Upper endoscopy is the diagnostic modality of choice for acute upper GI bleeding. Endoscopy has a high sensitivity and specificity for locating and identifying bleeding lesions in the upper GI tract.

Early endoscopy — Studies have reached variable conclusions when determining whether the application of early endoscopy (typically within 24 hours) for risk stratification and treatment reduces resource utilization or affects patient outcomes.

Other diagnostic tests — Other diagnostic tests for acute upper GI bleeding include angiography, which can detect active bleeding deep small bowel enteroscopy, and rarely, intraoperative enteroscopy.

Management


Suspected upper gastrointestinal bleeding (hematemesis or coffee-ground–like emesis)
Initial clinical assessment, resuscitation, and stabilization
Admit (usually to intensive care unit) and start proton pump inhibitor infusion
Suspect variceal hemorrhage (known or suspected cirrhosis)
Consider intravenous octreotide (Sandostatin), broad-spectrum antibiotics, and nonselective beta blockers
Perform urgent esophagogastro-duodenoscopy with endoscopic variceal ligation banding
Rebleeding
Consider transjugular intrahepatic portosystemic shunt procedure or surgery
Pre-endoscopy risk assessment
Perform urgent esophagogastroduodenoscopy
Peptic ulcer bleeding
Endoscopic therapy with epinephrine and either thermocoagulation or clips
Bleeding stopped
No rebleeding
Continue proton pump inhibitor therapy and eradicate Helicobacter pylori infection if present
Rebleeding
Second attempt at endoscopic therapy
Go to A
Arteriovenous malformations
Mallory-Weiss tear
Dieulafoy ulcer
Endoscopic therapy with epinephrine, thermo-coagulation, or clips
A Unable to stop bleeding
Arteriography with embolization
Consider surgery with severe and ongoing bleeding
Erosive esophagitis
Continue proton pump inhibitor therapy
No source found
Consider small bowel enteroscopy, capsule endoscopy, colonoscopy, arteriography with embolization, or tagged red blood cell study

Management

Blood product transfusions

Anemia — The decision to initiate blood transfusion must be individualized. Our approach is to initiate blood transfusion if the hemoglobin is <8 g/dL (80 g/L) for most patients (including those with stable coronary artery disease), with a goal of maintaining the hemoglobin at a level ≥8 g/dL (80 g/L).

Management

Medications

Acid suppression — Patients admitted to the hospital with acute upper GI bleeding are typically treated with a proton pump inhibitor (PPI).

Prokinetics — Both erythromycin and metoclopramide have been studied in patients with acute upper GI bleeding.

Vasoactive medications — Somatostatin, its analog octreotide, and terlipressin (not available in the United States) are used in the treatment of variceal bleeding and may also reduce the risk of bleeding due to nonvariceal causes

Antibiotics for patients with cirrhosis — Bacterial infections are present in up to 20 percent of patients with cirrhosis who are hospitalized with gastrointestinal bleeding; up to an additional 50 percent develop an infection while hospitalized. Such patients have increased mortality.

Tranexamic acid — Tranexamic acid is an antifibrinolytic agent that has been studied in patients with upper GI bleeding and does not appear to be beneficial

Anticoagulants and antiplatelet agents — most patients, endoscopy should not be delayed because of anticoagulant or antiplatelet agent use. When possible, anticoagulants and antiplatelet agents should be held in patients with upper GI bleeding.

Consultation

Gastroenterological consultation should be obtained in all patients with suspected clinically significant acute upper GI bleeding.

As a general rule, we obtain surgical and interventional radiology consultation if endoscopic therapy is unlikely to be successful, if the patient is deemed to be at high risk for rebleeding or complications associated with endoscopy, or if there is concern that the patient may have an aorto-enteric fistula. In addition, a surgeon and an interventional radiologist should be promptly notified of all patients with severe acute upper GI bleeding.

• Refer to a registered dietitian and endocrinologist for nutritional advice and structured education for Type 2 DM management

Type 2 Diabetes Mellitus

Type II: Disease that may or may not require insulin, causing hyperglycemia or glucose intolerance secondary to impaired insulin secretion or peripheral action

Does the pt complain of hypoglycemic or hyperglycemic symptoms?

Obtain a complete past medical history and family history

Determine medication adherence

Review diet and daily activities

If known diabetes, review home monitoring values

Check vital signs

- Check fasting or random blood sugar and body mass index.

Target Blood Sugar Levels for Diabetes

Age 6-12

Fasting	80-180
Before Meal	90-180
Before Exercise (depends on intensity and duration)	at least 150
Bedtime	100-180

Amounts shown above mg/dL

A1c	less than or around 8.0%

Age 13-19

Fasting	70-150
Before Meal	90-130
Before Exercise (depends on intensity and duration)	at least 150
Bedtime	90-150

A1c	less than or around 7.5%

These are general medical guidelines. Please follow your doctor's instructions.

WebMD

Target Blood Sugar Levels for Diabetes

Age 20+

Fasting	less than 100
Before Meal	70-130
After Meal (1-2hrs)	less than 180
Before Exercise	if taking insulin, at least 100
Bedtime	100-140

Amounts shown above mg/dL

A1c	less than or around 7.0%

These are general medical guidelines. Please follow your doctor's instructions.

WebMD

Conversion Chart for Blood Sugar Levels: mg/dL to mmol/L (Self-Monitoring)

Fasting Blood Sugar Range	Mg/DL	Mmol/L
Low Blood Sugar	30 - 70	1.7 – 3.9
Normal Blood Sugar	70 - 100	3.9 – 5.5
Pre-Diabetic Range	101 - 125	5.6 -6.9
Diabetes Range	126 - 600	7.0 – 33.3

8 mg/dL of blood glucose = 1 mmol/L of blood glucose
(reading after fasting for a minimum of 8 hours)

Management

Start medication to control glucose levels (average preprandial 80–120 mg/dL)

Biguanide: Metformin (Glucophage)

Sulfonylureas:

- First generations: Tolbutamide, tolazamide, chlorpropamide

-Second generations: Glipizide (Glucotrol), glyburide (Diabeta, Micronase); available in extended release

-α-glucosidase inhibitor: Acarbose (Precose), miglitol (Glyset)

-Others: Glimepiride (Amaryl), repaglinide (Prandin), rosiglitazone Avandia), pioglitazone (Actos)

Insulins: Regular, NPH, Novulin 70/30, Lente, Ultralente, Lispro, Lantus

Control of blood pressure: See Hypertension for management : Goal BP is ≤ 130/80

Control dyslipidemia: See Hyperlipidemia for management

Goal triglycerides < 200 mg/dL and LDL < 100 mg/dL

Goal HDL > 45 mg/dL in men and > 55 mg/dL in women

Management

Management

Assess complications

- Proteinuria, nephropathy, retinopathy, and neuropathy are common.
- Provide preventive therapy and refer when appropriate.

Start dietary and exercise intervention:.

- Recommend mild caloric restriction and mild to moderate exercise.
- Adherence of medication and self-care

Discuss medication compliance and simplify regimen if possible.

Self-care training with glucose monitoring; exercise, weight, and nutritional management; recognition of signs and symptoms of complications

Follow-up with referrals

- Yearly retinal eye exam by ophthalmologist
- Podiatry for foot and nail care as needed

Anemia

Adults: Gastrointestinal or urogenital bleed, menses, malnutrition or malabsorption, celiac disease, gastric or small bowel surgery, hemolysis, hypothyroidism

Are there signs of bleeding?

GI blood loss can be seen as melena, hematochezia, hemoptysis, or rectal bleeding.

Caring for Seniors with Anemia

If your loved one has been diagnosed with anemia, your actions as a family caregiver can help them manage their condition. In most cases, doctors will recommend a combination of dietary changes and/or supplements to help seniors manage their condition. Many cases of anemia are linked to poor levels of iron, vitamin B12, or folate.

In cases where supplements are recommended, family caregivers can help seniors remember when to take their supplements. Family caregivers can help seniors sort their supplements into pill organizers, monitor seniors when taking medications, or provide reminders when seniors are supposed to take their supplements.

Caring for Seniors with Anemia

If your loved one's doctor recommends dietary changes over supplements, you can help your loved one plan and prepare meals. As a family caregiver, you can incorporate the following foods into your loved one's diet, depending on his or her doctor's recommendations.

Iron Sources: Red meat, pork, poultry, seafood, tofu, legumes, chickpeas, pumpkin seeds, sesame seeds

Vitamin B12 Sources: Red meat, seafood, eggs, milk, cheese, yogurt

Folate Sources: Liver, legumes, black-eyed peas, spinach, artichoke, asparagus, broccoli, avocado, Brussels sprouts

Managing Anemia Symptoms in the Elderly

While dietary changes or supplements can make anemia's symptoms more manageable, many seniors continue to experience symptoms even after they make lifestyle changes. Certain symptoms — such as fatigue, lack of strength, and lightheadedness — can increase the risk of falls and put seniors at significant risk of injury.

It is therefore important that family caregivers support seniors in a way that minimizes these risks. Family caregivers should monitor seniors for signs of fatigue or poor balance and make sure that seniors aren't putting themselves at risk of a slip, trip, or fall.

Management

Management

Provide iron supplementation therapy

-Ferrous sulfate qd to qid for at least six months

-Vitamin C can be used to help increase absorption of iron.

-Increase iron-fortified foods such as red meats and leafy green vegetables.

Avoid taking with calcium, milk, and antacids because these may decrease iron absorption.

-Prescribe a stool softener with iron because constipation is common.

-For severe iron deficiency, hospitalization and replacement with parental iron or transfusion of packed RBCs may be required.

Management

If GI bleed or possible malignancy, a GI referral is indicated.

- Barium enema, upper gastrointestinal series, or endoscopy may be needed.

If any evidence of hemolysis, consider hematology referral.

- Pelvic bleeding may need surgical intervention from gynecology.

Pelvic ultrasound is useful if uterine fibroids or polyps are suspected.

Implement prevention and screening

Educate pt on nutrition with iron-fortified foods along with vitamins.

Screen at-risk populations, especially children and menstruating women.

Impact of illness to the family

Diseases have effects on family members in psychological, emotional functioning, disruption of leisure activities,financially and even during day today activities.

Psychological health issue

Anxiety among family members - A certain Illness in a family member tends to raise the **anxiety** and fear of all those family members and relatives close to the patient on the basis that this is a genetically related disease and they might get it in future.

Depression- patient may have depression due to the disease and it can affect the family as well.

Adjustments

Make every meal well balanced .

Coordinate your meals and medications.

Avoid sugar-sweetened beverages

Stay hydrated

Check your blood sugar level

She may need a caretaker.

Strictly follow her medications.

the doses and time that patient should take medicines since the patient is old.

Impact of illness to the family

Financial issues

- Monthly Income is going to be a major concern to get medicines, clinical investigations and for her future medical follow up. A financial support is needed.

Reaction to diagnosis

Family members experienced mixed feelings towards her diagnosis; with positive and negative feelings at the same time.

Patients who had positive feelings were those who looked more on the brighter side of the illness and with some elements of acceptance of T2DM in their life. They perceived living with diabetes as something which made them more cautious in their choice of diet.

Consequently the whole family had begun to live a much healthier lifestyle.

In this case she Is having DM type 2 for more than 10 years due to that she developed bleeding and anemia it causes anxiety among family members.

Negative feelings are the sense of unpleasant feelings that convey complications and adverse effect of treatment of diabetes mellitus. Those who had negative feelings were those who harbored elements of non-acceptance of their illnesses because she is rigid in religious rituals and practices .

Community Awareness

- In 2019, Approximately 463 million adults (20-79 years) were living with diabetes; by 2045 this will rise to 700 million. The proportion of people with type 2 diabetes is increasing in most countries(International Diabetes Federation)
- Diabetes can be treated and its consequences avoided or delayed with diet, physical activity, medication and regular screening and treatment for complications(WHO)
- Awareness of disease and symptoms are essential for screening and early detection.

Community Awareness

- When people are aware of a disease and its symptoms they are more likely to take action to prevent it happening to them or go to healthcare providers for regular check-ups.

- In this case she has Lack of awareness due to the absence, inaccessibility or inaccuracy of information which is made harder by her rigid in religious rituals and practices which is a strong deterrent to self-care and adherence to therapeutic regimen.

- In this situation we have to give awareness about the disease and the complications regarding the disease.

EDUCATION

- Patient should be counselled regarding the risks and likely consequences of not receiving a blood transfusion, as well as regarding other treatment options and their risks and likely consequences
- Elderly patients with severe co-existing diseases and hemodynamic instability have a poor prognosis and a high mortality rate
- Limitation of the use of Nonsteroidal Anti-inflammatory Drugs or Antiplatelet agents
- Healthy diet (avoid smoking and drinking)

- If symptoms persist/ worsened in the next visit, refer to tertiary care.

EDUCATION

Encourage the patient for behavioral change in managing her Type 2 DM such as remembering and administering a medication, talking with others about diabetes, taking supplies and being prepared for unexpected events, and making appointments.

Comprehensive Geriatric Assessment

Comprehensive geriatric assessment (CGA) is defined as a multidisciplinary diagnostic and treatment process that identifies medical, psychosocial, and functional capabilities of an older adult in order to develop a coordinated plan to maximize overall health with aging. CGA is based on the premise that a systematic evaluation of frail older persons by a team of health professionals may identify a variety of treatable health problems and lead to better health outcomes.

Home geriatric assessment has been shown to be effective in improving functional status, preventing institutionalization, and reducing mortality. CGA performed in the hospital, especially in dedicated units, also has benefit on survival. Most programs of hospital discharge management with in-home follow-up have reduced readmission rates. However, studies of CGA have found inconsistent benefit for outpatient and inpatient geriatric consultation, except in the context of specific conditions (eg, hip fracture).

Comprehensive Geriatric Care

The overall care rendered by CGA teams can be divided into six steps:

- Data-gathering
- Discussion among the team, increasingly including the patient and/or caregiver as a member of the team
- Development, with the patient and/or caregiver, of a treatment plan
- Implementation of the treatment plan
- Monitoring response to the treatment plan
- Revising the treatment plan

Assessment tools

These questionnaires can be used to gather information about general history to gather information specific to CGA, such as:

- Ability to perform functional tasks and need for assistance
- Fall history
- Urinary and/or fecal incontinence
- Pain
- Sources of social support, particularly family or friends
- Depressive symptoms
- Vision or hearing difficulties
- Whether the patient has specified a durable power of attorney for health care

Comprehensive Geriatric Care

- MAJOR COMPONENTS

Core components of comprehensive geriatric assessment (CGA) that should be evaluated during the assessment process are as follows:

- Functional capacity
- Fall risk
- Cognition
- Mood
- Polypharmacy
- Social support
- Financial concerns
- Goals of care
- Advance care preferences

Additional components may also include evaluation of the following:

- Nutrition/weight change
- Urinary continence
- Sexual function
- Vision/hearing
- Dentition
- Living situation
- Spirituality

Geriatric Care

Screening Tests:

- **Osteoporosis**- Bone mineral density, measured once after the age of 65
- **Hypertension** – blood pressure
- **Diabetes**- Serum glucose and hemoglobin A1c should be checked every 3 years or more often in patients who are obese or hypertensive. often in patients with diabetes or any cardiovascular disease.
- **Colorectal cancer**: A fecal occult blood test and a sigmoidoscopy

  or colonoscopy should be done on a regular schedule up to the age of 75 years. No consensus guidelines exist for these tests >75 years of age.

  • **Breast cancer**: Mammography should be done every 2 years between the ages of 50 and 74 years. No consensus guidelines exist for mammography after the age of 75 years.

  • **Cervical cancer**: A Pap smear should be done every 3 years up to the age of 65 years.

Geriatric Care

Geriatric Care

Preventive Interventions

Shingles: Administer herpes zoster vaccine once after the age of 50 years.

- Pneumonia: Administer pneumococcal vaccine once at the age of 65 years.

Myocardial infarction: Prescribe daily aspirin for patients with prevalent cardiovascular disease or with a poor cardiovascular risk profile.

- Osteoporosis: Prescribe calcium at 1200 mg daily and vitamin D at

≥800 IU daily.

Geriatric Care

Exercise

Centers for Disease Control and Prevention recommends that older persons should spend at least 150 min per week in moderate-intensity aerobic activity (e.g., brisk walking) and should engage in muscle strengthening activities that work all major muscle groups (legs, hips, back, abdomen, chest, shoulders, and arms) at least 2 days a week

Geriatric Care

Nutrition

Older persons are particularly vulnerable to malnutrition, and many problems that affect older patients can be addressed by dietary modification:

- Encourage the consumption of fruits and vegetables
- Emphasize that good hydration is essential. Fluid intake should be at least 1000 mL daily.

Geriatric Care

Nutrition

- Encourage the use of fat-free and low-fat dairy products, legumes, poultry, and lean meats. Encourage consumption of fish at least once a week, since there is strong epidemiologic evidence that fish consumption is associated with a lowered risk of Alzheimer's

Disease.

Limit the intake of foods with a high content of saturated fatty acidsand cholesterol.

Limit alcohol consumption (one drink per day or less).

Introduce vitamin D–fortified foods and/or vitamin D supplements into the diet. Older persons who have little exposure to UVB radiation are at risk of vitamin D insufficiency.

Make sure that the diet includes adequate food-related intake of magnesium, vitamin A, and vitamin B

Research

Gastrointestinal Symptoms in Diabetes: Prevalence, Assessment, Pathogenesis, and Management

Yang T. Du,[1,2] Christopher K. Rayner,[2,3,4] Karen L. Jones,[1,2,3] Nicholas J. Talley,[5,6,7] and Michael Horowitz[1,2,3]

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If you haven't measured something, you really don't know much about it.
—Karl Pearson (attributed)

Gastrointestinal (GI) symptoms represent an important and often unappreciated cause of morbidity in diabetes, although the significance of this burden across the spectrum of patients and the underlying pathophysiology, including the relationship of symptoms with glycemic control, remain poorly defined. The relevance of GI symptoms and the necessity for their accurate assessment have increased with the greater focus on the gut as a therapeutic target for glucose lowering. This review addresses the prevalence, assessment, pathogenesis, and management of GI symptoms in diabetes, beginning with broad principles and then focusing on specific segments of the GI tract. We initially performed a literature search of PubMed by using synonyms and combinations of the following search terms: "gastrointestinal symptoms", "diabetes", "prevalence", "pathogenesis", "diagnosis", and "management". We restricted the search results to English only. Review papers and meta-analyses are presented as the highest level of evidence where possible followed by randomized controlled trials, uncontrolled trials, retrospective and observational data, and expert opinion.

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PREVALENCE AND SIGNIFICANCE OF GASTROINTESTINAL SYMPTOMS IN DIABETES

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Thank you