HAEMATOLOGY

MICROCYTIC ANAEMIA

HISTORY X MANAGEMENT

OSCE

01

TOPIC - HISTORY TAKING

MEDIC

PATIENT

MARKER

PLEASE REFER TO YOUR SCRIPTS

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PROMPT

Ms. Jane Doe is a 45-year-old lady who works as a vegan chef. She presented to her GP clinic with a 6-month history of feeling increasingly fatigued, and lately, experiencing occasional bouts of dizziness

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02

LET'S DISCUSS

INTRODUCTION AND RAPPORT BUILDING

- Confirm patient's identity and consent
- Assess the onset, duration, and progression of symptoms
- Explore the patient's understanding of their condition

OBTAINS A THOROUGH HISTORY OF THE PATIENT'S PRESENTING SYMPTOMS

- Onset, duration, and progression of symptoms
- Description of symptoms (fatigue, weakness, pallor, shortness of breath)
- History of bleeding or increased menstrual flow
- Dietary history, including iron intake
- History of any chronic diseases (e.g. rheumatoid arthritis)

- History of similar episodes
- Family history of anaemia or haematological disorders
- Medication history, including iron supplements
- History of any gastrointestinal disorders
- Collateral history from relatives if relevant

OBTAINS A THOROUGH HISTORY OF THE PATIENT'S PRESENTING SYMPTOMS

- "Could you tell me when you first started feeling tired and if you have noticed any changes over time?"
- "Apart from the fatigue, have you noticed any other changes in your health such as shortness of breath or a paler complexion than usual?"
- "Have you experienced any unusual bleeding or heavier menstrual periods than usual?"
- "Could you tell me more about your diet? Are there any foods you particularly avoid or favour?"
- "Do you have any long-term medical conditions, particularly rheumatoid arthritis or other autoimmune conditions?"

FURTHER EXPLORATION...

- Severity of fatigue
- Specific symptoms of anaemia (pallor, fast heartbeat, dizziness)
- Presence of symptoms indicating bleeding (melena, haematuria, heavy menstrual flow)
- Examination for symptoms related to the underlying cause of anaemia (joint pain, weight loss)
- Impact of symptoms on daily life

FURTHER EXPLORATION

- "Have you ever experienced these symptoms before?"
- "Is there anyone in your family who has a blood disorder or who had similar symptoms?"
- "Are you currently taking any medications, including over-the-counter medications or supplements?"
- "Have you ever been diagnosed with gastrointestinal disorders, like stomach ulcers or inflammatory bowel disease?"
- "Is there anyone who can provide additional information about your health, such as a close relative or caregiver?"

OTHER KEY PHRASES

- "How would you rate your fatigue on a scale from 1 to 10, where 1 is no fatigue at all and 10 is the worst fatigue you can imagine?"
- "Have you noticed your heart beating faster or a sense of dizziness especially when you stand up?"
- "Do you see any blood when you go to the toilet, or have noticed any changes in your menstrual cycle?"
- "Apart from fatigue, have you experienced any other symptoms such as joint pain or weight loss?"
- "How has this fatigue affected your day-to-day activities or your work?"

RED FLAGS/COMPLICATIONS

- **Red Flags**
  - Severe fatigue impacting daily activities
  - Persistent pallor
  - Uncontrolled bleeding
  - Chest pain or symptoms of heart failure
  - Very low haemoglobin levels
- **Common Complications:**
  - Iron overload in transfusion-dependent patients
  - Heart failure in severe chronic anaemia
  - Impact on quality of life due to chronic fatigue
- **Risk factors**
  - Poor dietary iron intake
  - Regular aspirin or NSAID use
  - Female gender (due to menstrual blood loss)
  - History of peptic ulcer disease
  - Age over 60 (increased risk of malignancy)

RED FLAGS...

- "Have you felt so tired that you're unable to do your regular daily activities?"
- "Have others commented on your pallor, or have you noticed yourself looking paler in the mirror?"
- "Have you experienced any uncontrollable bleeding, or passed blood in your stool or urine?"
- "Have you experienced any chest pain or difficulties in breathing?"
- "Have you had any blood tests done recently and do you know the results?"

- "Long-term, untreated iron deficiency can lead to serious health problems like iron deficiency anaemia."
- "If the anaemia is due to a condition that affects the bone marrow, it could also affect your platelets and cause thrombocytopenia."
- "Severe chronic anaemia can put a strain on your heart and eventually lead to heart failure."

RISK FACTORS

- "Your diet as a vegan may lack enough iron, which is commonly found in meat. Do you supplement your diet with iron-rich foods or take iron supplements?"
- "Do you regularly take aspirin or any other anti-inflammatory medications?"
- "Heavy menstrual bleeding can also lead to iron deficiency. How would you describe your menstrual cycle?"
- "Have you ever been diagnosed with a peptic ulcer or stomach ulcer?"
- "As we get older, the risk of having certain types of anaemia increases. Additionally, certain types of anaemia may also indicate underlying conditions such as cancer."

PAST MEDICAL HISTORY

- Prior ocular diseases or surgeries
- Chronic diseases, e.g., diabetes
- Medications, particularly steroids
- Any known allergies
- Prior episodes of visual disturbances or ocular pain

DRUG HISTORY

- Use of medications that could cause bleeding (NSAIDs, anticoagulants)
- Any known allergies and nature of reactions

FAMILY HISTORY

- Hereditary haemochromatosis
- Thalassaemia

SOCIAL HISTORY:

- Diet and lifestyle (vegetarian, vegan)
- Smoking and alcohol consumption

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PAST MEDICAL HISTORY

- "Have you ever been diagnosed with anaemia or any other blood disorders?"
- "Have you had any stomach problems or digestive disorders in the past?"
- "Do you have any other long-term medical conditions?"

- "Is there anyone in your family who has been diagnosed with haemochromatosis or iron overload disorder?"
- "Do you have any family history of thalassaemia or any other inherited blood disorders?"

- "Are you currently taking any medications, including over-the-counter drugs, herbal supplements, or vitamins? Particularly, are you on any blood thinners or anti-inflammatory medications?"
- "Do you have any allergies to medications, and if so, what reactions have you had?"

- "Can you tell me more about your diet? For example, do you eat a variety of fruits, vegetables, and grains? Are you a strict vegan or vegetarian?"
- "Do you smoke or consume alcohol? If so, how often and how much?"

HISTORY

IDEAS, CONCERNS AND EXPECTATIONS

- ICE
  - "I'd like to take a moment to understand your perspective on your illness. It's important for me to know your ideas, concerns, and expectations regarding your condition and this consultation. Please feel free to express any fears, worries, or questions you may have. We're here to address them together."

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EXAMINATION

- **Examination Findings:**
  - Vital signs including weight
  - General appearance (e.g. pallor, jaundice)
  - Examination for signs of bleeding
  - Cardiorespiratory examination findings
  - Abdominal examination (e.g. hepatosplenomegaly)
  - Neurological examination, including cranial nerves

- **Risk Assessment (5 points)**
  - Assessment of the risk of severe anaemia or heart failure
  - Assessment of the risk of ongoing bleeding

EXAMINATION

- "I'm going to check your vital signs including your blood pressure, pulse, and weight."
- "Now, I'm going to examine your general appearance, including looking for signs of paleness."
- "I will also look for signs of bleeding, such as bruises or petechiae (small red spots)."
- "Next, I will examine your heart and lungs and then move on to examine your abdomen."
- "Lastly, I'll do a neurological examination, which includes checking your strength, sensation, and reflexes, as well as examining your cranial nerves."

- "Given your symptoms and your test results, there is a risk of severe anaemia and potential heart failure. We need to manage your condition promptly to avoid these complications."
- "We will also need to assess for ongoing bleeding, especially if you have been having unusual bruising or blood in your stools."

EXAMINATION

DIFFERENTIAL DIAGNOSIS

- Iron deficiency anaemia (decreased ferritin)
- Thalassemia (normal to increased ferritin, Hb electrophoresis)
- Anaemia of chronic disease (normal to increased ferritin)
- Lead poisoning (basophilic stippling on blood smear, increased blood lead levels)
- Sideroblastic anaemia (ringed sideroblasts on bone marrow smear, increased ferritin)

DIFFERENTIAL DIAGNOSIS

- "While your symptoms and test results are suggestive of iron deficiency anaemia, we also need to consider other conditions. For instance, thalassaemia, a genetic disorder, can cause similar symptoms and blood test results, but the iron levels would not be low as in your case."
- "Another condition we consider is anaemia of chronic disease, which can occur with longstanding illnesses. However, these patients typically have normal or high ferritin levels, unlike your low ferritin level."
- "Lead poisoning can also lead to microcytic anaemia, but it is usually associated with specific environmental or occupational exposures, and you haven't mentioned anything of this sort."
- "Sideroblastic anaemia is another condition that can present with microcytic anaemia, but it is rare and typically associated with other symptoms and findings."
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INVESTIGATION

- Ocular pressure measurement (tonometry)
- Gonioscopy to visualize the angle of the anterior chamber
- Optic nerve head assessment (ophthalmoscopy)

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INVESTIGATION

- "Your blood tests show that you have a lower than normal amount of red blood cells and these cells are smaller than normal, which is suggestive of microcytic anaemia. This often points to iron deficiency."
- "Tests for iron in your blood show that you have lower levels of iron, which is a strong indicator of iron deficiency anaemia."
- "We will need to test your stool for hidden blood as well as run some further investigations to find out the cause of your iron deficiency."
- "If indicated, we may need to proceed with an endoscopy or colonoscopy to look at your digestive tract."
- "We may need to perform further imaging or tests depending on your symptoms and findings."

MANAGEMENT PLAN

- First-line: Oral iron supplements for iron-deficiency anaemia
- Second-line: IV iron or blood transfusion in severe cases
- Third-line: Treatment of underlying cause (e.g. stop NSAIDs, treat peptic ulcer)
- Management of complications (e.g. diuretics for heart failure)
- Referral to haematology if indicated

Management in the Community & Key Principles Before Discharge (2 points)

- Regular GP follow-up to monitor haemoglobin levels and response to treatment
- Dietary advice (iron-rich foods)
- Explanation of diagnosis and management plan to the patient
- Instructions on iron supplement use, side effects, and follow-up plan
- Safety netting advice on when to seek medical attention (e.g. worsening fatigue, new bleeding)

MANAGEMENT PLAN

- "The first step in managing iron deficiency anaemia is to start you on iron supplements. The most common form is ferrous sulfate, which you take as a pill."
- "If your anaemia is severe or if you can't tolerate oral iron, we may need to give you iron intravenously or even consider a blood transfusion."
- "It's also crucial that we treat the underlying cause of your iron deficiency, for example, stopping NSAIDs if they're causing bleeding or treating a peptic ulcer."
- "If your anaemia leads to complications like heart failure, we would need to manage that as well, for instance, with medications to help your heart pump more effectively."
- "Depending on your condition and response to treatment, we may need to involve a haematologist, a specialist in blood disorders."

COMMUNITY MANAGEMENT

- "We will need to have regular follow-up appointments to monitor your response to the iron supplements. We will repeat your blood tests in about a month to see if your haemoglobin levels have improved."
- "In the meantime, it would be beneficial to modify your diet to include more iron-rich foods, especially those with a type of iron that's easy for the body to absorb."
-
- "So, in summary, you have a condition called iron deficiency anaemia, which is likely due to a lack of iron in your diet. We will start you on iron supplements and modify your diet to include more iron-rich foods."
- "These supplements can sometimes cause side effects like stomach upset or constipation. If you notice these or if your symptoms worsen, I want you to contact the clinic right away."
- "We will have a follow-up appointment in about a month to see how you're doing and to check your blood tests. If your anaemia doesn't improve, we may need to consider other treatment options."

ADVICE TO GUARDIANS/RELATIVES

Explanation of Condition

- Explanation of microcytic anaemia, its causes, and implications
- Explanation of the treatment plan, potential complications, and prognosis

Advice to Guardians

- Supporting the patient in managing their condition and ensuring medication compliance

Useful Resources (2 points)

- Information about patient support groups and reputable online resources about anaemia

ADVICE TO GUARDIANS/RELATIVES

- "Iron deficiency anaemia is a condition where your body doesn't have enough iron to make haemoglobin, which is the part of your red blood cells that carries oxygen around your body. This lack of iron is often due to not getting enough iron in your diet or not being able to absorb iron from the food you eat."
- "The good news is that with the right treatment, we can increase your iron levels and improve your symptoms. However, it's also important to manage the cause of your iron deficiency to prevent it from recurring."
- "As Jane's friend, you can support her in managing her condition. Encourage her to take her medication as prescribed, and help her make dietary changes to include more iron-rich foods."
- "I recommend looking at the NHS website or the British Dietetic Association's Food Fact Sheet on Iron for more information about iron deficiency anaemia and dietary sources of iron."

COMPLICATIONS OF TREATMENT

MOA of Therapies

- Role of iron supplements in replenishing iron stores for haemoglobin synthesis

Basic Overview of Surgical Therapies:

- Not relevant

Complications of Medication and Surgical Therapy: Adverse reactions to medications.

- Side effects of iron supplements (constipation, dark stools)
- Complications of transfusion or IV iron (allergic reactions, iron overload)

COMPLICATIONS OF TREATMENT

- "Iron supplements work by providing your body with the iron it needs to make haemoglobin. Over time, as your body builds up its iron stores, you should see an improvement in your symptoms."

- "Iron supplements can cause side effects like constipation and dark stools. If these become troublesome, please let us know so we can adjust your treatment."
- "In severe cases, treatments like blood transfusion or IV iron can have risks, such as allergic reactions or iron overload. However, these treatments are typically reserved for severe cases or if oral supplements are not effective."

FOLLOW UP

- Review in 4 weeks for symptom improvement and repeat blood count
- Longer-term follow-up depending on cause (e.g. GI follow-up if due to peptic ulcer)

FOLLOW UP

- "We will need to see you in about 4 weeks to check how you're responding to the iron supplements. We will do this by asking about your symptoms and by repeating your blood tests."
- "Depending on the cause of your iron deficiency, you may also need longer-term follow-up. For instance, if you have a peptic ulcer, you might need follow-up appointments with a gastroenterologist."

SEVERITY SYSTEMS

- IOP measurement, visual field testing, optic nerve imaging

NEVER MISS

- Exploring the risk factors for iron deficiency, including dietary intake and history of bleeding
- Complete physical examination, including cardiovascular and abdominal examination
- Requesting appropriate investigations, including complete blood count and iron studies
- Recognising potential complications, including heart failure and impact on quality of life
- Effective communication with the patient about their diagnosis and treatment plan

TOP 1% QUESTIONS

1. Recognising signs of hereditary haemochromatosis during history taking
2. Considering less common causes of microcytic anaemia (e.g. sideroblastic anaemia) during differential diagnosis3. Discussing potential implications of chronic anaemia on a patient's mental health
3. Tailoring iron supplement recommendations to patient's lifestyle and preferences (e.g. vegetarian sources of iron)
4. Demonstrating empathy and patient-centred communication throughout the consultation

SOFT SKILLS

- Demonstrating empathy and effective communication throughout the consultation.
- "Thank you for sharing all this information with me, it's been really helpful in understanding your situation. Do you have any questions or concerns about anything we've discussed today?"
- Closing the consultation: "Thank you for your time today. I know this can be a lot to take in, but it's important to remember that we're here to support you every step of the way. If you have any further questions or concerns, please don't hesitate to ask."

KEY LEARNING POINTS

- TO BE DONE TOGETHER

DATA

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MANAGEMENT

- What went well?
- What went poorly?
- What will you do next time?

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LET'S DISCUSS

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03

WHY DON'T YOU TRY?

- Test your history taking skills?
- Try examination/investigation/dx formulation?
- Try a Mock exam?

QUESTIONS?

MDT

HAEMATOLOGY

MACROCYTIC ANAEMIA

HISTORY X MANAGEMENT

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01

TOPIC - HISTORY TAKING

MEDIC

PATIENT

MARKER

PLEASE REFER TO YOUR SCRIPTS

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PROMPT

A 69-year-old male presents with a three-week history of fatigue and shortness of breath on exertion.

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02

LET'S DISCUSS

INTRODUCTION AND RAPPORT BUILDING

- Confirm patient's identity and consent
- Assess the onset, duration, and progression of symptoms
- Explore the patient's understanding of their condition

INTRODUCTION AND RAPPORT BUILDING

- "Can you tell me more about your symptoms? When did the fatigue, dyspnoea, and palpitations start? How have they progressed over time?"
- "How are these symptoms impacting your daily life?"
- "Are you experiencing any cognitive changes, loss of sensation, or tingling? Have there been any changes in your bowel habits?"
- "Have there been any recent changes in your diet or medication?"
- "Do you have any family history of anaemia or haematological disorders?"

OBTAINS A THOROUGH HISTORY OF THE PATIENT'S PRESENTING SYMPTOMS

- Detailed characterisation of presenting symptoms (fatigue, dyspnoea, palpitations)
- Onset, duration, and progression of symptoms
- Impact of symptoms on daily activities
- Any associated symptoms (cognitive changes, loss of sensation, tingling, changes in bowel habit)
- Recent changes in diet or medication
- Family history of anaemia or haematological disorders
- Review of systems (Including neurological symptoms, GI symptoms, signs of malabsorption)

- Prior episodes of anaemia or similar symptoms
- Previous diagnoses and treatment of any underlying conditions associated with macrocytic anaemia
- Detailed medication history, particularly use of medications associated with macrocytic anaemia (e.g. methotrexate, phenytoin, trimethoprim)
- Dietary habits, particularly consumption of food rich in vitamin B12 and folate
- Collateral history from relatives or caregivers if available

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OBTAINS A THOROUGH HISTORY OF THE PATIENT'S PRESENTING SYMPTOMS

- "Can you describe how severe your fatigue and shortness of breath are? How are these symptoms affecting your ability to perform your daily activities?"
- "Are you experiencing any chest pain or palpitations? Can you describe what they feel like?"
- "Are you experiencing any cognitive changes or neurological symptoms, such as balance issues, numbness, or tingling?"
- "Have there been any changes in your bowel habits, including diarrhoea or signs of malabsorption?"
- "Have there been any changes in your diet, appetite, or weight?"

FURTHER EXPLORATION...

- Severity and impact of fatigue or shortness of breath
- Presence and characterisation of any chest pain or palpitations
- Any cognitive changes or neurological symptoms (balance issues, numbness, tingling)
- Changes in bowel habits, including diarrhoea or signs of malabsorption
- Changes in diet, appetite, or weight

FURTHER EXPLORATION

- "Have you had prior episodes of anaemia or similar symptoms? Have you been previously diagnosed and treated for any conditions associated with macrocytic anaemia?"
- "Could you give me a rundown of your current medication list? Are you taking medications such as methotrexate, phenytoin, or trimethoprim?"
- "Can you tell me more about your diet? Do you typically consume foods rich in vitamin B12 and folate?"
- "Is there anyone else who could provide additional information about your health status, like a caregiver or relative?"

RED FLAGS/COMPLICATIONS

- **Red Flags**
  - Severe fatigue or shortness of breath
  - Rapid onset or worsening of symptoms
  - Chest pain or palpitations
  - Neurological symptoms, including changes in balance, sensation, or cognition
- **Common Complications:**
  - Cardiovascular complications due to anaemia (e.g., heart failure)
  - Neurological complications due to B12 deficiency (e.g., peripheral neuropathy, cognitive impairment)
  - GI complications related to underlying cause (e.g., malabsorption)
  - Complications of untreated underlying causes
- **Risk factors**
  - Diet deficient in B12 or folate
  - Chronic conditions that cause malabsorption (e.g., Crohn's disease, coeliac disease)
  - Long-term use of medications that interfere with B12 or folate metabolism
  - Age and general health status
  - Alcohol use

RED FLAGS...

- "Do you experience severe fatigue or shortness of breath?"
- "Have you noticed a rapid onset or worsening of symptoms?"
- "Do you ever experience chest pain or palpitations?"
- "Have you noticed any neurological symptoms, including changes in balance, sensation, or cognition?"

COMPLICATIONS

- "Based on your symptoms and condition, it's important to monitor for possible complications, such as cardiovascular problems like heart failure, neurological complications due to B12 deficiency, gastrointestinal complications related to an underlying cause, and complications of untreated underlying causes."

RISK FACTORS

- "Your diet, certain chronic conditions like Crohn's disease or coeliac disease, long-term use of specific medications, your age and general health status, and alcohol use are factors that we need to consider as they can contribute to your symptoms."

PAST MEDICAL HISTORY

- History of diseases associated with macrocytic anaemia (e.g., pernicious anaemia, liver disease, hypothyroidism)
- History of surgical procedures, especially gastric or intestinal surgeries
- Regular medications, particularly those that can cause macrocytic anaemia

DRUG HISTORY

- Detailed review of prescription, over-the-counter, and herbal medications
- Use of drugs associated with macrocytic anaemia (e.g., antiepileptics, antineoplastics)
- Any known drug allergies and the nature of reactions

FAMILY HISTORY

- Haematological disorders, especially those causing macrocytic anaemia
- Gastrointestinal disorders, especially those causing malabsorption

SOCIAL HISTORY:

- Alcohol consumption
- Dietary habits, particularly intake of foods rich in B12 and folate
- Occupation and lifestyle

PAST MEDICAL HISTORY

- "Have you ever been diagnosed with diseases associated with macrocytic anaemia, like pernicious anaemia, liver disease, or hypothyroidism?"
- "Have you undergone any surgical procedures, especially in the gastric or intestinal region?"
- "Are you currently taking regular medications, especially those that can cause macrocytic anaemia?"

DH

- "Let's go over all the medications you're currently taking, whether prescription, over-the-counter, or herbal. Are you taking any medications that are known to be associated with macrocytic anaemia?"
- "Do you have any known drug allergies and could you tell me about the nature of these reactions?"

FH

- "Do any of your family members have haematological disorders, especially those causing macrocytic anaemia?"
- "What about gastrointestinal disorders, especially those causing malabsorption?"

IDEAS, CONCERNS AND EXPECTATIONS

- ICE
  - "I'd like to take a moment to understand your perspective on your illness. It's important for me to know your ideas, concerns, and expectations regarding your condition and this consultation. Please feel free to express any fears, worries, or questions you may have. We're here to address them together."

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EXAMINATION

- **Examination Findings:**
  - Vital signs, including heart rate, blood pressure, and oxygen saturation
  - General appearance (pallor, jaundice)
  - Examination of the heart and lungs
  - Abdominal examination
  - Examination of the skin and nails (e.g., pallor, spoon-shaped nails)
  - Neurological examination, including cranial nerves and peripheral sensation
  - Mental state examination and MMSE if indicated by history
  - Specific haematological examination findings (e.g., glossitis, angular cheilitis)

EXAMINATION

- "I am going to conduct a physical examination. I'll be checking your vital signs, looking at your general appearance, listening to your heart and lungs, and examining your abdomen, skin, and nails. I'll also conduct a neurological examination, which will involve testing your cranial nerves and peripheral sensation."
- "If indicated by your history, I may also perform a mental state examination and a Mini Mental State Examination (MMSE)."
- "I will look for specific haematological examination findings, such as glossitis or angular cheilitis."

DIFFERENTIAL DIAGNOSIS

- Vitamin B12 deficiency: Most consistent with the patient's symptoms, blood test findings, and history. This is the most likely diagnosis.
- Folate deficiency: Could potentially cause macrocytic anaemia, but the patient's folate levels are normal.
- Myelodysplastic syndromes: These can cause macrocytic anaemia but are less likely in the absence of other cytopenias or dysplastic changes on blood film.
- Hypothyroidism: This can cause macrocytic anaemia, but thyroid function tests are normal.
- Liver disease: This can cause macrocytic anaemia, but liver function tests are normal and the patient has no history of liver disease.

DIFFERENTIAL DIAGNOSIS

- "Once we have the results from these tests, we can consider several possible diagnoses. These may include Vitamin B12 deficiency, Folate deficiency, Myelodysplastic syndromes, Hypothyroidism, or Liver disease. The exact diagnosis will depend on your test results and history."

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INVESTIGATION

- Full blood count showing macrocytic anaemia
- Vitamin B12 and folate levels
- Reticulocyte count
- Blood film examination
- Additional tests as indicated (liver function tests, thyroid function tests, intrinsic factor antibodies, gastric parietal cell antibodies)
- Imaging as appropriate (e.g., abdominal imaging if malabsorption suspected)

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INVESTIGATION

- "Based on your symptoms, I would like to order some tests to help us understand your condition better. These may include a full blood count to check for macrocytic anaemia, tests for your vitamin B12 and folate levels, reticulocyte count, and a blood film examination. Depending on the results, we may need to perform additional tests like liver function tests, thyroid function tests, or tests for intrinsic factor antibodies and gastric parietal cell antibodies."
- "We may also consider imaging, like an abdominal scan, if malabsorption is suspected."

MANAGEMENT PLAN

- First-line: Vitamin B12 replacement (usually intramuscular hydroxocobalamin in the UK)
- Second-line: Treat underlying cause of B12 deficiency, if identified
- Third-line: Dietary advice (if B12 deficiency due to inadequate intake)
- Management in the community: GP to monitor response to treatment, follow-up blood tests
- Referral to haematology if inadequate response to treatment or if cause of B12 deficiency cannot be identified

Management in the Community

- Follow up care after discharge
- Diet and lifestyle advice

MANAGEMENT PLAN

- "Your treatment plan will largely depend on your exact diagnosis. This could involve Vitamin B12 replacement, treatment of the underlying cause of B12 deficiency, or dietary advice."
- "Management in the community, such as follow-up care with your GP and monitoring of your treatment, will also be important."
- "If your response to treatment is inadequate, or if the cause of B12 deficiency cannot be identified, we may need to refer you to a haematology specialist."

KEY PRINCIPLES BEFORE DISCHARGE AND SAFETY NETTING (5 POINTS)

- Explanation of diagnosis, treatment plan, and potential complications to patient and family
- Instructions on when to seek urgent medical care (e.g., worsening symptoms, neurological symptoms)
- Follow-up plan with primary care physician and/or haematology

KEY PRINCIPLES BEFORE DISCHARGE AND SAFETY NETTING (3 POINTS)

- "Before you leave, we'll discuss your diagnosis, treatment plan, potential complications, and instructions for when to seek urgent medical care."
- "We'll also arrange a follow-up plan with your primary care physician or haematology, if necessary."

ADVICE TO GUARDIANS/RELATIVES

- **Explanation of the Condition to Patients and Their Relatives (3 points):**
  - Explanation of macrocytic anaemia and its potential causes and impacts on health
  - Detailed explanation of the treatment plan, including B12 replacement therapy
  - Encouragement of questions and checking understanding

- **Advice to Guardians (2 points):**
  - How to support the patient's recovery and ensure adherence to treatment
  - Directing to reliable online resources for further information about macrocytic anaemia

ADVICE TO GUARDIANS/RELATIVES

- "I'd like to discuss your condition - macrocytic anaemia, its potential causes, and its impacts on your health. We'll also discuss your treatment plan in detail."
- "It's important for me that you understand this information, so please feel free to ask questions."

- "Here's how you can support the patient's recovery and ensure adherence to treatment. I can also direct you to some reliable online resources for more information about macrocytic anaemia."

COMPLICATIONS OF TREATMENT

MOA of Therapies

- Explanation of how B12 replacement therapy works

Complications of Medication and Surgical Therapy:

- Potential side effects of B12 replacement therapy
- Complications of treatment for underlying causes (if applicable)

COMPLICATIONS OF TREATMENT

MOA of Therapies

- "Vitamin B12 replacement therapy works by replenishing the body's stores of this vitamin, which is essential for the formation of red blood cells and proper functioning of the nervous system."

Complications of Medication and Surgical Therapy:

- "Let's also talk about the potential side effects of B12 replacement therapy and complications of treatment for underlying causes, if applicable."

FOLLOW UP

- Follow-up blood tests to monitor response to B12 replacement therapy
- Referral to specialist services as appropriate based on underlying cause of B12 deficiency

FOLLOW UP

- "Following your discharge, we'll arrange for follow-up blood tests to monitor your response to the B12 replacement therapy. If necessary, we'll refer you to specialist services based on the underlying cause of your B12 deficiency."

NEVER MISS

- Always consider B12 deficiency in patients with macrocytic anaemia, especially if accompanied by symptoms of anaemia, neurological symptoms, or gastrointestinal symptoms.
- B12 deficiency can have serious complications if not treated promptly, so urgent treatment with B12 replacement therapy is critical.
- It's essential to identify and manage any underlying causes of B12 deficiency to prevent recurrence.
- Regular follow-up and monitoring of blood tests is key to ensuring treatment efficacy and monitoring for potential complications.
- Clear communication with patients and their families about the diagnosis, treatment plan, and when to seek urgent medical attention is critical for ensuring patient safety and adherence to treatment.

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TOP 1% QUESTIONS

1. What are the key steps in the metabolic pathway that requires Vitamin B12, and how does a deficiency in this vitamin disrupt this pathway?
2. How can macrocytic anaemia result in cardiovascular complications?
3. Why is neurological examination crucial in the evaluation of macrocytic anaemia?
4. Explain the role of intrinsic factor in the absorption of Vitamin B12 and how can its deficiency lead to macrocytic anaemia?
5. Describe the Schilling test and its role in the diagnosis of macrocytic anaemia.

SOFT SKILLS

- Demonstrating empathy and effective communication throughout the consultation.
- "Thank you for sharing all this information with me, it's been really helpful in understanding your situation. Do you have any questions or concerns about anything we've discussed today?"
- Closing the consultation: "Thank you for your time today. I know this can be a lot to take in, but it's important to remember that we're here to support you every step of the way. If you have any further questions or concerns, please don't hesitate to ask."

KEY LEARNING POINTS

- TO BE DONE TOGETHER

DATA

OSCE

03

MANAGEMENT

- What went well?
- What went poorly?
- What will you do next time?

OSCE

02

LET'S DISCUSS

OSCE

03

WHY DON'T YOU TRY?

- Test your history taking skills?
- Try examination/investigation/dx formulation?
- Try a Mock exam?

QUESTIONS?

MDT

HAEMATOLOGY

DEEP VEIN THROMBOSIS

HISTORY X MANAGEMENT

OSCE

01

TOPIC - HISTORY TAKING

MEDIC

PATIENT

MARKER

PLEASE REFER TO YOUR SCRIPTS

OSCE

01

PROMPT

A 67-year-old male presents with acute swelling, pain, and warmth in his left lower leg. The symptoms started suddenly two days ago.

OSCE

02

LET'S DISCUSS

INTRODUCTION AND RAPPORT BUILDING

- Introduces Self and Purpose: Introduction of the medical professional, confirms patient identity, explains the purpose of the conversation, and ensures patient comfort. [1 point]
- Obtains Consent: Asks for consent to proceed with the questions and possibly a physical examination later on. [1 point]

INTRODUCTION AND RAPPORT BUILDING

- "Hello, my name is Dr. [Name], and I'm here to help you today. May I confirm your name and date of birth, please? I understand that you may be feeling anxious, and I want to assure you that you are in good hands. I'd like to talk to you about what brought you here, examine you, and discuss our plan of care. Is that alright with you? Please know that your comfort is my priority."

OBTAINS A THOROUGH HISTORY OF THE PATIENT'S PRESENTING SYMPTOMS

- Onset of pain and swelling.
- Location of symptoms, typically in a leg.
- Character of pain (e.g., constant, sharp).

COLLATERAL

- Family history of blood clots.
- Use of birth control pills or hormone replacement therapy.

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OBTAINS A THOROUGH HISTORY OF THE PATIENT'S PRESENTING SYMPTOMS

- "Thank you for coming in today. Could you please tell me when you first noticed the pain and swelling in your leg? How would you describe the pain? Is it constant, or does it come and go?"

FURTHER EXPLORATION...

- **Exploration of Symptoms of Presenting Complaint:**
  - Pain, swelling, warmth, red or discolored skin over the affected area.
  - Tenderness over the affected area.
- **Detailed History of Presenting Complaint:**
  - Previous episodes of DVT or PE.
  - Recent surgeries, injuries, or prolonged immobilization.
  - Any associated symptoms like fever.

FURTHER EXPLORATION

- "I understand that must be concerning for you. Could you tell me more about the swelling and warmth? Have you noticed any redness or discoloration over the affected area?"
- "Have you ever had a similar issue with blood clots before? Have you had any recent surgeries or injuries, or have you been bedridden for a long time?"

RED FLAGS/COMPLICATIONS

- **Red Flags**
  - Red Flags: Sudden onset of unilateral swelling, chest pain, shortness of breath.

- **Common Complications:**
  - PE, Post-thrombotic Syndrome, Compartment Syndrome.

- **Risk factors**
  - Smoking, obesity, pregnancy, long travel, immobility.

RED FLAGS...

- Red Flags: "Have you experienced any sudden swelling in one leg, chest pain, or shortness of breath? These can be serious symptoms, and I want to make sure we address them."

COMPLICATIONS

- "There are some complications we need to be aware of, such as a clot traveling to the lungs (PE), Post-thrombotic Syndrome, and Compartment Syndrome. We'll closely monitor for these."

RISK FACTORS

- "I'd like to know more about your lifestyle. Do you smoke, or have any prolonged periods of immobility like long travel? What's your usual diet and exercise routine?"

PAST MEDICAL HISTORY

- History of cancer, heart failure, inflammatory bowel disease.
- Previous surgeries especially orthopedic.

DRUG HISTORY

- Use of anticoagulants, contraceptives.
- Known allergies and reactions

FAMILY HISTORY

- Any family history of clotting disorders.

SOCIAL HISTORY:

- Occupation, lifestyle factors like exercise and diet.

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01

PAST MEDICAL HISTORY

- "Have you been diagnosed with any other medical conditions, like cancer or heart failure? Have you had any surgeries, especially orthopedic ones?"

DH

- "Are you currently taking any medications, like anticoagulants or contraceptives? Do you have any known allergies or reactions to medications?"

FH

- "Is there any family history of clotting disorders or any other relevant medical history?"

SH

- "Could you tell me about your occupation and daily activities, including exercise and dietary habits?"

IDEAS, CONCERNS AND EXPECTATIONS

- ICE
  - "I'd like to take a moment to understand your perspective on your illness. It's important for me to know your ideas, concerns, and expectations regarding your condition and this consultation. Please feel free to express any fears, worries, or questions you may have. We're here to address them together."

EXAMINATION

- **Examination Findings:**
  - Vital Signs Including Weight:
    - Blood pressure, pulse, respiratory rate, temperature.
    - Record weight.
  - Airway, Breathing, and Cardiovascular Findings:
    - Assess for respiratory distress, chest pain.
    - Heart sounds, peripheral pulses.
  - Respiratory Examination:
    - Lung fields examination for signs of PE.
  - Abdominal Findings:
    - Liver, spleen palpation to rule out other causes.
  - Neurological Findings (including cranial nerves):
    - Sensation, reflexes in affected limb.
  - Psychiatric Findings and MMSE:
    - Orientation, memory, concentration.
  - Risk Assessment:
    - VTE risk using tools like Wells Score.

OSCE

01

EXAMINATION

- **Vital Signs Including Weight:**
  - "I'm going to check your blood pressure, pulse, respiratory rate, and temperature now, and also record your weight. This will help me understand your overall health."
- **Airway, Breathing, and Cardiovascular Findings:**
  - "I'm going to listen to your heart and lungs now and assess for any chest pain or breathing difficulties."
- **Respiratory Examination:**
  - "I'm going to examine your lung fields now to make sure everything sounds normal, especially since blood clots can sometimes affect the lungs."
- **Risk Assessment**
  - "Based on what we've discussed, we'll assess your risk for blood clots using tools like the Wells Score. It helps guide our management."

DIFFERENTIAL DIAGNOSIS

- Explain why Cellulitis, Baker's Cyst, Muscle strain are incorrect (e.g., absence of redness, no cyst detected, no trauma history).

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DIFFERENTIAL DIAGNOSIS

- "Based on the findings, we can rule out conditions like Cellulitis, Baker's Cyst, and Muscle strain. The absence of redness, no detection of cyst, and lack of trauma history point us towards a DVT diagnosis."

HISTORY

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INVESTIGATION

- Bloods:
  - D-dimer: Elevated.
  - CBC, PT, APTT.
- Imaging:
  - Ultrasound of affected limb.
  - CT angiography if needed.
- Other Clinically Relevant Tests:
  - ECG if PE suspected.

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INVESTIGATION

- **Bloods:**
  - "We'll need some blood tests, including a D-dimer, CBC, PT, and APTT. These tests help us confirm the diagnosis and guide treatment."
- **ECG:**
  - "An ECG may be needed if we suspect any lung involvement. This will give us more information about your heart's electrical activity."
- **Imaging:**
  - "I'd like to order an ultrasound of the affected limb, and possibly a CT angiography. These images will provide a detailed view of what's going on inside."

MANAGEMENT PLAN

- First Line Management:
  - Anticoagulation (e.g., Heparin, Warfarin), leg elevation.
- Second Line Management:
  - Thrombolytics if massive DVT.
- Third Line Management:
  - Inferior vena cava filter if anticoagulation contraindicated.

COMMUNITY MANAGEMENT

- Follow-up care, monitoring for complications.

MANAGEMENT PLAN

- **First Line Management:**
  - "The initial treatment involves anticoagulation medications like Heparin or Warfarin and elevating the affected leg. This helps prevent the clot from getting bigger."
- **Second Line Management:**
  - "In more severe cases, thrombolytic drugs may be used to dissolve the clot quickly."
- **Third Line Management:**
  - "If anticoagulants can't be used, we may consider an inferior vena cava filter to prevent clots from reaching the lungs."

- Management in the Community (1 point)
  - "You'll need regular follow-up care and monitoring for complications in the community setting."

KEY PRINCIPLES BEFORE DISCHARGE AND SAFETY NETTING (5 POINTS)

- Key Principles Before Discharge (1 point): Education about symptoms, when to seek help, medications.
-
- Safetynetting (1 point): Provide instructions for what symptoms would require immediate medical attention and provide necessary contact numbers.

KEY PRINCIPLES BEFORE DISCHARGE AND SAFETY NETTING (3 POINTS)

- "Before you leave, I want to educate you about your symptoms, when to seek help, and the medications you'll be taking."

ADVICE TO GUARDIANS/RELATIVES

- **Explanation of Condition to Patient and Relatives (2 points):**
  - Nature of DVT, cause, complications.

- **Advice to Guardians, Useful Resources (2 points):**
  - Lifestyle changes, medication compliance.

ADVICE TO GUARDIANS/RELATIVES

- "I'd like to explain that you have a condition called Deep Vein Thrombosis (DVT). This is a blood clot that has formed in your leg, and we'll be treating it with medications and monitoring it closely."
- "Here are some resources on lifestyle changes and medication compliance. It's essential to follow these guidelines to prevent future issues."

COMPLICATIONS OF TREATMENT

MOA

- How anticoagulants prevent clot growth.

COMPLICATIONS

- Possible side effects of anticoagulants, risks of intervention.

COMPLICATIONS OF TREATMENT

Mx of Therapies

- "The anticoagulants we'll be using work by preventing the clot from growing and allowing the body to gradually dissolve it."

Cx of Therapies

- "It's important to know that anticoagulants can have side effects, and there are risks to any surgical interventions. We'll discuss these in detail so you know what to expect."

FOLLOW UP

- Timing of follow-up appointments, specialist referrals.

FOLLOW UP

- "We'll schedule follow-up appointments according to UK guidelines and refer you to specialists if needed. Regular monitoring is vital to your recovery."

NEVER MISS

1. Recognizing signs of PE.
2. Immediate initiation of anticoagulation.
3. Proper assessment of bleeding risk.
4. Consideration of underlying malignancy.
5. Proper education on follow-up and self-monitoring.

TOP 1% QUESTIONS

1. Explain the mechanism of thrombus resolution in DVT.
2. What are the criteria for Catheter-Directed Thrombolysis (CDT) in DVT?
3. How does Factor V Leiden mutation contribute to DVT?
4. What are the challenges in anticoagulation therapy in pregnant women with DVT?
5. Discuss the role of Compression Stockings in the prevention of Post-thrombotic Syndrome.

SOFT SKILLS

- Demonstrating empathy and effective communication throughout the consultation.
- "Thank you for sharing all this information with me, it's been really helpful in understanding your situation. Do you have any questions or concerns about anything we've discussed today?"
- Closing the consultation: "Thank you for your time today. I know this can be a lot to take in, but it's important to remember that we're here to support you every step of the way. If you have any further questions or concerns, please don't hesitate to ask."

KEY LEARNING POINTS

- TO BE DONE TOGETHER

DATA

OSCE

03

MANAGEMENT

- What went well?
- What went poorly?
- What will you do next time?

OSCE

02

LET'S DISCUSS

OSCE

03

WHY DON'T YOU TRY?

- Test your history taking skills?
- Try examination/investigation/dx formulation?
- Try a Mock exam?

QUESTIONS?

MDT

HAEMATOLOGY

EXPISTAXIS

HISTORY X MANAGEMENT

OSCE

01

TOPIC - HISTORY TAKING

MEDIC

PATIENT

MARKER

PLEASE REFER TO YOUR SCRIPTS

PROMPT

A 15-year-old male, referred by his general practitioner, presents with recurrent episodes of epistaxis (nosebleeds) over the past six months. The bleeding episodes have become more frequent and severe, prompting concern.

OSCE

02

LET'S DISCUSS

INTRODUCTION AND RAPPORT BUILDING

- Introduces Self and Purpose: Introduction of the medical professional, confirms patient identity, explains the purpose of the conversation, and ensures patient comfort. [1 point]
- Obtains Consent: Asks for consent to proceed with the questions and possibly a physical examination later on. [1 point]
- Chief complaint and duration.

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INTRODUCTION AND RAPPORT BUILDING

"Hello [patient's name], thank you for taking the time to meet with me today. I'd like to discuss your symptoms and health in detail to best understand how we can help. If you have any questions or concerns at any point, please feel free to stop me."

OBTAINS A THOROUGH HISTORY OF THE PATIENT'S PRESENTING SYMPTOMS

- Frequency and duration of episodes.
- Bilateral or unilateral bleeding.
- Volume of blood loss (e.g., drops, clots, needing to swallow).
- Association with trauma or spontaneous.
- Triggers: e.g., nose picking, sneezing.

OBTAINS A THOROUGH HISTORY OF THE PATIENT'S PRESENTING SYMPTOMS

"I'd like to start by understanding more about the nosebleeds you've been experiencing. Could you describe them for me?"

- "How often have you been getting these nosebleeds?"
- "Do they last long? And have you noticed if they come from one or both nostrils?"
- "Can you estimate the amount of blood? Like a few drops, clots or so much that you felt the need to swallow?"
- "Did something specific trigger the nosebleeds, like a bump to the nose, or do they happen spontaneously?"
- "Have you noticed if certain actions like nose picking or sneezing might set it off?"

FURTHER EXPLORATION...

- Onset and course of bleeding.
- Previous similar episodes and their management.

COLLATERAL

- Any witnesses to the bleeding?
- Observations on the severity and duration.

FURTHER EXPLORATION

- "When did you first notice these nosebleeds? Can you describe how it started and progressed?"
- "Have you had nosebleeds like this in the past? If so, how were they managed?"

COLLATERAL

- "Has anyone else witnessed these bleeding episodes? What did they observe?"

RED FLAGS/COMPLICATIONS

- **Red Flags**
  - Prolonged bleeding episodes.
  - Associated symptoms like easy bruising, bleeding from other sites.

- **Common Complications:**
  - Anemia from frequent bleeding.
  - Sinus infections.

- **Risk factors**
  - Use of anticoagulants or NSAIDs.
  - Known clotting disorders.
  - Alcohol consumption.

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RED FLAGS...

- "Do these bleeding episodes last a very long time?"
- "Have you noticed bruising easily or bleeding from other parts of your body?"

COMPLICATIONS

- "Have you felt more tired or fatigued recently, which might suggest anemia from blood loss?"
- "Have you experienced symptoms like a stuffed nose or facial pain, which might point to a sinus infection?"

RISK FACTORS

- "Do you take blood-thinning medications or pain killers frequently?"
- "Do you drink alcohol often?"
- "Do you or your family have a history of clotting disorders?"

HISTORY

PAST MEDICAL HISTORY

- History of bleeding disorders.
- Recent surgeries or dental extractions

DRUG HISTORY

- Current medications, focus on anticoagulants, NSAIDs, and antiplatelets.
- Known allergies and reactions.

FAMILY HISTORY

- Family members with bleeding disorders or frequent epistaxis.

Social History:

- Smoking, alcohol consumption, recreational drug use.
- Occupational hazards (e.g., exposure to dry air or chemicals).

PAST MEDICAL HISTORY

Past Medical and Surgical History:

- "Do you have any known bleeding disorders?"
- "Have you recently had any surgeries, especially dental ones?"

DH

- "Could you tell me about any medications you're currently on, especially blood thinners or anti-inflammatory drugs?"
- "Do you have any known drug allergies?"

FAMILY AND SOCIAL HISTORY:

- "Does anyone in your family experience frequent nosebleeds or have diagnosed bleeding disorders?"
- "Do you smoke or consume recreational drugs?"
- "What's your job? Are you exposed to dry air or chemicals frequently?"

IDEAS, CONCERNS AND EXPECTATIONS

- ICE
  - "I'd like to take a moment to understand your perspective on your illness. It's important for me to know your ideas, concerns, and expectations regarding your condition and this consultation. Please feel free to express any fears, worries, or questions you may have. We're here to address them together."

EXAMINATION

- **Examination Findings: - <u>CHAPERONE</u>**
  - **Vital Signs:** Temperature, heart rate, respiratory rate, oxygen saturation, blood pressure, weight.
  - **Airway:** Patency and signs of obstruction.
  - **Breathing:** Effort and symmetry.
  - **Cardiovascular:** Palpable pulses, capillary refill time.
  - **Respiratory:** Chest inspection, auscultation.
  - **Abdominal: Palpation for organomegaly (especially liver or spleen).**
  - **Neurological:** Cranial nerve examination especially for evidence of trauma.
    - Gross motor and sensory examination.
  - **Peripheral Examination:** Skin and mucosal inspection for petechiae, purpura, or ecchymoses.

  - **Risk Assessment:**
    - Risk of severe hemorrhage or recurrence.
  - **Nasal Examination:**
    - Inspection of nasal septum, presence of active bleeding, clots, or cauterized areas.

01
EXAMINATION

- **"I'd like to conduct a few physical examinations to get a clearer picture. Is that alright?"**
  - Peripheral Examination: "I'll inspect your skin and the inside of your mouth to look for any small red spots, larger purplish areas, or bruises."
  - Risk Assessment: "We need to gauge the risk of another severe nosebleed or it happening repeatedly."
  - Nasal Examination: "I'll now take a look inside your nose to see if there's any active bleeding or any other signs that can give us clues."

DIFFERENTIAL DIAGNOSIS

- Simple epistaxis: Due to trauma or dry air.
- Bleeding disorders: Hemophilia, Von Willebrand disease.
- Drug-induced: Anticoagulants, NSAIDs.

- Reasons incorrect differentials might be ruled out:
  - Clinical presentation.
  - Laboratory findings.
  - Drug history.

DIFFERENTIAL DIAGNOSIS

- Simple Epistaxis:
  - "Epistaxis can often be caused by factors like dry air or minor trauma."
- Bleeding Disorders:
  - "Sometimes, bleeding disorders like hemophilia or Von Willebrand disease can cause frequent nosebleeds."
- Drug-Induced Epistaxis:
  - "Certain medications like blood thinners or NSAIDs can contribute to nosebleeds."

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INVESTIGATION

- Bloods:
  - Full Blood Count, Coagulation profile (PT, APTT, fibrinogen).
  - Liver function tests.
- Swabs: Not particularly relevant for this scenario.

- Imaging:
  - Nasal endoscopy if required.

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INVESTIGATION

- "I'd suggest getting some blood tests to check your blood count and how well your blood is clotting, along with tests to check your liver's health."
- Imaging: "If needed, we might consider a special camera examination (nasal endoscopy) to get a clearer view inside your nose."

OSCE

01

MANAGEMENT PLAN

- **Immediate Management:**
  - Pinch the nose, lean forward.
  - Topical vasoconstrictors.
- **First Line:**
  - Cauterization for identified bleeding vessels.
  - Nasal packing.
- **Second Line:**
  - Referral to ENT.
  - Consider reversal of anticoagulation.
- **Third Line:**
  - Surgical intervention for persistent bleeds.
- **Prevention:**
  - Humidifiers, saline nasal sprays.
  - Avoid nose picking.
- **Lifestyle Changes:**
  - Smoking cessation.
  - Limiting alcohol intake.
- **Management in the Community:**
  - GP review.
  - Medication review and adjustment.

MANAGEMENT PLAN

"Our immediate step will be to manage the active bleeding. You might be advised to pinch the nose and lean forward. Depending on the cause and severity, treatments can range from cauterizing a blood vessel, packing the nose, or even surgery in rare cases. We'll also discuss preventive measures and lifestyle changes."

KEY PRINCIPLES BEFORE DISCHARGE AND SAFETY NETTING (5 POINTS)

- Stable vitals.
- No active bleeding.
- Understanding of management at home.
- Understanding of when to seek help.
- Follow-up arrangements in place.

- **SAFETY NETTING: Return if:**
  - Recurrent bleeding.
  - Signs of infection.
  - Increased bruising or bleeding elsewhere.

KEY PRINCIPLES BEFORE DISCHARGE AND SAFETY NETTING (3 POINTS)

- "Before you leave, we want to ensure you're feeling stable, understand how to manage nosebleeds at home, and know when to seek help."

Safety Netting: "It's essential to come back or seek medical attention if the bleeding starts again, if there are signs of infection around the nose, or if you notice increased bruising or bleeding from other areas."

ADVICE TO GUARDIANS/RELATIVES

EXPLANATION TO PATIENTS/RELATIVES: "Ensure the patient avoids nose picking, blowing the nose hard, or engaging in heavy physical activity. Monitor for recurrent episodes and seek medical attention if needed."

"Epistaxis or nosebleeds can occur due to a variety of reasons like dry air, minor trauma, medications, or underlying medical conditions. It's essential to determine the cause and manage it accordingly. Sometimes, the blood vessels in the nose need to be cauterized, or the nose might need packing to stop the bleed."

- **Useful Resources:**
  - Local ENT departments.
  - Patient leaflets on managing epistaxis.

ADVICE TO GUARDIANS/RELATIVES

"It's crucial to ensure that the person avoids picking their nose, blowing their nose too hard, or heavy exercise for now. Watch out for recurrent nosebleeds and contact a doctor if needed."

- "Nosebleeds can happen for various reasons, and we'll work together to understand and manage the underlying cause. Sometimes, the blood vessels in the nose need a little help to stop bleeding."

COMPLICATIONS OF TREATMENT

Complications of Medication:

- Medication side effects.
- Risks associated with nasal packing, such as infection.
- Rebleeding post-cauterization.

Mechanism of Action:

- Topical vasoconstrictors work by narrowing the blood vessels, reducing blood flow, and hence bleeding.

Surgical Therapies:

- Direct cauterization using silver nitrate or electrocautery.
- Anterior or posterior nasal packing.

COMPLICATIONS OF TREATMENT

- "Medications can sometimes have side effects, and with surgical interventions, there's a possibility of infection or rebleeding."
- "Topical vasoconstrictors work by narrowing blood vessels in the nose, which helps reduce bleeding."

FOLLOW UP

- GP review in 1 week for medication adjustments.
- ENT review in 2–3 weeks.

SEVERITY SYSTEM

- Mild: Spontaneous cessation, no medical intervention.
- Moderate: Requires medical intervention (e.g., cauterization, packing).
- Severe: Recurrent, requiring multiple interventions, or associated with significant blood loss.

FOLLOW UP

"Let's schedule a wound check in a week, and then a more comprehensive surgical review in 6 weeks. We're here for you every step of the way."

- "After today's visit, we'll make sure to schedule a follow-up appointment to monitor your progress and make sure the nosebleeds are under control."

NEVER MISS

1. Rule out underlying bleeding disorders.
2. Ensure patient's safety (risk of significant blood loss).
3. Check for medication-related causes.
4. Provide clear advice on home management.
5. Ensure follow-up arrangements.

TOP 1% QUESTIONS

1. Describe the nasal arterial supply and potential bleeding points.
2. Explain the mechanism by which anticoagulant drugs can predispose to epistaxis.
3. How does liver disease relate to epistaxis?
4. Enumerate conditions where epistaxis can be a presenting symptom.
5. Discuss the role of endoscopic procedures in recurrent epistaxis.

SOFT SKILLS

- Demonstrating empathy and effective communication throughout the consultation.
- "Thank you for sharing all this information with me, it's been really helpful in understanding your situation. Do you have any questions or concerns about anything we've discussed today?"
- Closing the consultation: "Thank you for your time today. I know this can be a lot to take in, but it's important to remember that we're here to support you every step of the way. If you have any further questions or concerns, please don't hesitate to ask."

KEY LEARNING POINTS

- TO BE DONE TOGETHER

DATA

OSCE

03

MANAGEMENT

- What went well?
- What went poorly?
- What will you do next time?

OSCE

02

LET'S DISCUSS

OSCE

03

WHY DON'T YOU TRY?

- Test your history taking skills?
- Try examination/investigation/dx formulation?
- Try a Mock exam?

QUESTIONS?

MDT

HAEMATOLOGY

HAEMACHROMATOSIS

HISTORY X MANAGEMENT

OSCE
01

TOPIC - HISTORY TAKING

MEDIC

PATIENT

MARKER

PLEASE REFER TO YOUR SCRIPTS

OSCE
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PROMPT

Mr. Doe comes in with fatigue, joint pain, and abdominal discomfort over the past six months. He's observed some changes in skin color, particularly a bronze tint.

OSCE
02

LET'S DISCUSS

INTRODUCTION AND RAPPORT BUILDING

- Introduce self and verify patient's identity.
- Obtain consent.
- Open-ended question about presenting complaint.

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01

INTRODUCTION AND RAPPORT BUILDING

1. Good morning, my name is Dr. [Your Name], and I'll be your physician today. May I kindly confirm your name and date of birth?"
2. "Before we proceed, I'd like to ask for your consent to discuss your medical history and perform an examination."
3. "Could you please start by telling me about the reason for your visit today? Is there anything specific that's been bothering you?"

OBTAINS A THOROUGH HISTORY OF THE PATIENT'S PRESENTING SYMPTOMS

- Joint pain or arthritis, especially in the knuckles
- Fatigue or lethargy
- Abdominal pain
- Memory fog or cognitive changes
- Sexual dysfunction or decreased libido
- Change in skin color (bronzing or grayish appearance)

OBTAINS A THOROUGH HISTORY OF THE PATIENT'S PRESENTING SYMPTOMS

- "Have you noticed any joint pain, especially around your knuckles?"
- "Do you often feel tired or lethargic?"
- "Have you been experiencing any abdominal pain?"
- "Have you noticed any changes in your memory or thought processes?"
- "Has there been any change in your sexual desire or function?"
- "Have you seen any changes in the color of your skin, like it becoming more bronze or gray?"

FURTHER EXPLORATION...

- onset
- progression
- duration
- frequency
- alleviating/aggravating factors.

- COLLATERAL HISTORY:
  - from relatives or close acquaintances if relevant

FURTHER EXPLORATION

- "When did you first notice these symptoms? Can you describe how they've changed over time? Are there any factors that make them better or worse?"

Collateral History:

- "Has anyone witnessed or provided information about your symptoms, such as family or friends?"

RED FLAGS/COMPLICATIONS

- **Red Flags**
  - severe abdominal pain
  - irregular heart rhythm or palpitations
  - significant weight loss without an obvious reason.

- **Common Complications:**
  - Liver diseases like cirrhosis or liver cancer
  - Diabetes due to pancreatic damage
  - Heart conditions like arrhythmias or cardiomyopathies
  - Hormonal imbalances like hypogonadism

- **Risk factors**
  - Family history of haemochromatosis or iron overload disorders
  - Northern European descent
  - History of blood transfusions or iron supplements

OSCE
01

RED FLAGS...

- "Have you had any severe abdominal pain recently? Noticed any irregularities in your heartbeats? Or perhaps significant weight loss without any apparent reason?"

COMMON COMPLICATIONS

- "Have you ever been diagnosed with liver diseases such as cirrhosis or liver cancer? Diabetes? Heart conditions? Or any hormonal imbalances?"

RISK FACTORS

- "Is there a family history of haemochromatosis or any iron overload disorders? Are you of Northern European descent? Have you had multiple blood transfusions or been on iron supplements?"

PAST MEDICAL HISTORY

- Relevant cardiac, respiratory conditions.

DRUG HISTORY

- Regular medications and over-the-counter drugs.
- allergies and nature of reaction.

FAMILY HISTORY

- focusing on liver disease, diabetes, heart disease, arthritis

Social History:

- including alcohol consumption, diet, and potential exposure to metals.

PAST MEDICAL HISTORY

- "Can you share your previous medical history with me? Have you had any surgeries? And were there any notable health issues during your development or childhood?"

DH

- "Are you currently on any medications? Do you have any known allergies, and if so, how do they manifest?"

Family History:

- "Do any family members have liver disease, diabetes, heart disease, or arthritis?"

Social History:

- "How often do you consume alcohol? Can you describe your diet? Have you been exposed to any heavy metals or toxic substances?"

IDEAS, CONCERNS AND EXPECTATIONS

- ICE
  - "I'd like to take a moment to understand your perspective on your illness. It's important for me to know your ideas, concerns, and expectations regarding your condition and this consultation. Please feel free to express any fears, worries, or questions you may have. We're here to address them together."

OSCE
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EXAMINATION

- **Vital Signs:** Weight, Blood Pressure, Pulse, Respiratory Rate, Temperature
- **Airway, Breathing, Cardiovascular, Respiratory**
- **Abdominal Findings:**
  - Hepatomegaly or liver tenderness
  - Splenomegaly
- **Neurological Findings:**
  - Cognitive changes or signs of memory impairment
  - Cranial nerves
- **Peripheral Examination:** Check for signs of arthritis or joint swelling, especially in the hands**.**
- **Psychiatric Findings:**
  - MMSE (Mini-Mental State Examination)
  - Any signs of depression or mood changes
- **Risk Assessment:** Evaluate for complications such as liver failure or severe heart conditions.

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EXAMINATION

- **Vital Signs:**
  - "I'd like to check your vital signs first. This involves measuring your weight, blood pressure, pulse, respiratory rate, and temperature."
- **General Examination:**
  - "Now, I'll assess your overall health. I'll be checking your breathing, heart sounds, and general appearance."
- **Abdominal Findings:**
  - "I'm going to gently press on your abdomen. I'm checking for any enlargement or tenderness in your liver and spleen."
- **Neurological Findings:**
  - "I'd like to assess your neurological functions. Can you follow my finger with your eyes? I'll also be testing your memory and other cognitive functions."
- **Peripheral Examination:**
  - "Let's check your joints, especially your hands, for any signs of arthritis or swelling."
- **Psychiatric Findings:**
  - "I'd like to assess your mental state using a few standard questions. Also, have you noticed any changes in your mood or feelings recently?"
- **Risk Assessment:**
  - "Based on our findings, I'll evaluate the potential risks or complications you might face, especially concerning liver failure or severe heart conditions."

DIFFERENTIAL DIAGNOSIS

1. Primary: Haemochromatosis
    - Iron overload without a clear secondary cause, with genetic mutations, and the specific symptoms and findings related.
2. Others:
    - Chronic liver disease (e.g., alcoholic liver disease, hepatitis): Differentiate with history and liver biopsy.
    - Iron-loading anemias: Differentiated by the anemia, bone marrow findings.
    - Other arthropathies like rheumatoid arthritis: Differentiate with joint-specific findings and tests.

DIFFERENTIAL DIAGNOSIS

1. Primary (Haemochromatosis): "Considering your symptoms and specific findings, haemochromatosis is a primary diagnosis we'll focus on."
2. Other Potential Diagnoses: "We'll consider other possibilities like chronic liver disease, iron-loading anemias, and other arthropathies and differentiate based on detailed assessments."

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INVESTIGATION

1. Blood Tests:
    - Serum ferritin
    - Transferrin saturation
    - Liver function tests
    - Fasting glucose
2. Genetic Testing: HFE gene mutation analysis.
3. Imaging:
    - MRI for iron deposits in the liver
    - Liver biopsy if indicated

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INVESTIGATION

1. "To get a clearer picture of what might be going on, I recommend the following tests:"

Blood Tests:

1. "A blood test to measure your iron levels, liver function, and fasting glucose."

Genetic Testing:

1. "A test to check for any genetic mutations related to haemochromatosis."

Imaging:

1. "An MRI to look for iron deposits in your liver. And in some cases, a liver biopsy might be needed."

MANAGEMENT PLAN

- Immediate Management: Phlebotomy or venesection to remove excess iron.
- First Line: Regular phlebotomy sessions to maintain normal iron levels.
- Second Line: Iron-chelating agents for those who can't undergo phlebotomy.
- Third Line: Liver transplantation in cases of advanced cirrhosis.

PREVENTION & LIFESTYLE CHANGES

1. Limiting vitamin C supplements and iron-rich foods.
2. Regular medical check-ups and blood tests.
3. Avoiding alcohol or reducing intake.
4. Regular exercise and healthy diet to prevent secondary complications like diabetes.

MANAGEMENT IN THE COMMUNITY

1. Genetic counseling for family members.
2. Regular monitoring with the GP and referring to specialists when necessary.

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MANAGEMENT PLAN

"Based on our findings and investigations, here's what I propose for your treatment:"

- "Phlebotomy, or blood removal, to help reduce the excess iron in your body."
- "If needed, medications that help remove iron from the body."
- "In severe cases with liver damage, a liver transplant might be considered."

PREVENTION

1. "We'll discuss limiting specific supplements and iron-rich foods to help manage your condition."
2. "Regular medical check-ups and tests will help us keep track of your health and intervene as needed."
3. "Avoiding or reducing alcohol consumption can be helpful, and regular exercise combined with a balanced diet can prevent secondary complications like diabetes."

KEY PRINCIPLES BEFORE DISCHARGE AND SAFETY NETTING (5 POINTS)

- Education about the condition and its implications.
- Ensuring regular follow-ups are scheduled.
- Patient is stable and understands medication or phlebotomy regimen.
- All questions and concerns addressed.
- Ensure the patient is aware of red-flag symptoms and when to seek urgent care.

- Safety Netting:
  - Importance of regular check-ups and compliance with treatment.
  - Recognizing signs of iron overload or complications.
  - Importance of genetic counseling for family members.
  - Contact details of local services and helplines.
  - Emergency numbers and instructions in case of severe symptoms or complications.

KEY PRINCIPLES BEFORE DISCHARGE AND SAFETY NETTING (5 POINTS)

- "It's essential to attend regular check-ups and stay compliant with treatment. Monitor for signs of iron overload or complications. If you notice any severe symptoms, such as intense abdominal pain or irregular heartbeats, seek medical attention immediately."

ADVICE TO GUARDIANS/RELATIVES

- **Explanation to Patients and Relatives:**
  - Basic understanding of haemochromatosis: genetics, implications, and course.
  - Explanation of treatment options and prognosis.
  - Potential complications and their implications.
  - Role of lifestyle and dietary changes.

- Understand the potential inheritance pattern for children.
- Importance of early diagnosis and intervention in family members.
- **Resources:**
  - British Liver Trust
  - Iron Disorders Institute

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ADVICE TO GUARDIANS/RELATIVES

- "Haemochromatosis is a condition where the body absorbs too much iron, which can then accumulate in various organs. This can be due to genetic factors or other reasons. The treatment is mainly aimed at reducing this iron overload and managing any symptoms or complications."

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COMPLICATIONS OF TREATMENT

1. Phlebotomy: potential for anemia, infection, or bruising.
2. Iron-chelating agents: potential for kidney or liver damage, allergic reactions.
3. Liver transplantation: organ rejection, infection, surgical complications.

MECHANISM OF ACTION

1. Iron-chelating agents: Bind excess iron in the bloodstream, allowing it to be excreted by the body.

SURGICAL THERAPIES

1. Liver transplantation: Indicated for severe liver damage. Replaces the damaged liver with a healthy donor organ.

COMPLICATIONS OF TREATMENT

1. COMPLICATIONS OF MEDICATION & SURGICAL THERAPY
   - "We'll explain the potential complications associated with phlebotomy, iron-chelating agents, and liver transplantation."
2. MECHANISM OF ACTION OF MEDICATION THERAPIES
   - "Iron-chelating agents work by binding and removing excess iron from the bloodstream, allowing it to be excreted by the body."
3. SURGICAL THERAPIES
   - "In severe cases of liver damage, a liver transplantation might be necessary, replacing the damaged liver with a healthy donor organ."

FOLLOW UP

- Regular blood tests to monitor iron levels: Initially weekly, then monthly, and eventually every few months based on stabilization.
- Yearly liver imaging or biopsy to monitor for liver damage.
- Regular cardiology and endocrinology check-ups for potential complications.

FOLLOW UP

- "We'll organize regular blood tests to monitor your iron levels, starting with more frequent tests and adjusting them based on your stabilization."
- "Regular liver imaging and check-ups with cardiology and endocrinology specialists will help monitor for potential complications."

SEVERITY SYSTEM

- Mild: Elevated serum ferritin and transferrin saturation without symptoms.
- Moderate: Mild symptoms with or without mild liver enzyme elevation.
- Severe: Significant symptoms with liver damage or other organ involvement.

NEVER MISS

1. Regular monitoring of iron levels and organ functions.
2. Immediate intervention if red flag symptoms are identified.
3. Importance of genetic counseling for family members.
4. Compliance with phlebotomy or medication regimen.
5. Avoidance of excess iron intake through diet or supplements.

TOP 1% QUESTIONS

1. What is the role of the HFE gene in haemochromatosis?
2. How does the iron overload in haemochromatosis lead to diabetes?
3. What is the difference between primary and secondary haemochromatosis?
4. Why is there a bronzing of the skin in patients with haemochromatosis?
5. Which other organs, aside from the liver, are commonly affected in haemochromatosis?

SOFT SKILLS

- "Before we conclude, I want to make sure that all your concerns and questions have been addressed. Is there anything else you'd like to discuss?"
- Demonstrating empathy and effective communication throughout the consultation.
- "Thank you for sharing all this information with me, it's been really helpful in understanding your situation. Do you have any questions or concerns about anything we've discussed today?"
- Closing the consultation: "Thank you for your time today. I know this can be a lot to take in, but it's important to remember that we're here to support you every step of the way. If you have any further questions or concerns, please don't hesitate to ask."

KEY LEARNING POINTS

- TO BE DONE TOGETHER

DATA

MANAGEMENT

- What went well?
- What went poorly?
- What will you do next time?

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LET'S DISCUSS

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WHY DON'T YOU TRY?

- Test your history taking skills?
- Try examination/investigation/dx formulation?
- Try a Mock exam?

QUESTIONS?

MDT