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Haemolytic Anaemia and Haemoglobinopathy Spotters

Practical 05 / Spotter and viva

Aim

Compare haemolysis markers and blood films from sickle cell disease and thalassaemia teaching cases.

Principle

Haemolysis can increase reticulocytes, LDH and indirect bilirubin and lower haptoglobin. Film findings and haemoglobin analysis refine the cause.

Materials and Requirements

- Prepared sickle cell and thalassaemia films
- Fictional CBC, reticulocyte and haemoglobin analysis reports

Procedure

1. Review Hb, MCV, reticulocytes and specimen context including recent transfusion.
2. Match the film, CBC and haemoglobin analysis to the same fictional patient. Note age, family history, treatment and dates of any recent transfusion before reading the result.
3. Identify target cells, sickled forms or other characteristic findings in selected marked fields.
4. Examine a monolayer and compare several fields. Describe size and shape changes and confirm whether elongated curved forms, target cells or fragments are reproducible and distinct from artefact.
5. Review LDH, bilirubin and haptoglobin patterns with the case history.
6. Compare reticulocytes, indirect bilirubin, LDH and haptoglobin with the supplied intervals and chronology. Identify results that may have other explanations or need repeat assessment.
7. Check the haemoglobin analysis method and pattern and state what further evidence is needed for diagnosis.
8. Review chromatogram or electrophoresis fractions and any instrument comments. Record the fraction values and consider how transfused cells or the method might alter the observed distribution.
9. Give the best supported pattern, a plausible alternative and the confirmation required in the scenario. Flag a concerning film finding promptly to the supervisor.

Precautions

- Use prepared slides and no live blood manipulation for this review.
- Record recent transfusion and method limitations.

Observations and Interpretation

Haemolytic Anaemia and Haemoglobinopathy Spotters

Observations and Record

Item	What to record	What it tells you
Film	Characteristic shape and size findings	Supports a differential
Haemolysis panel	Reticulocytes and biochemical markers	Assesses increased red cell destruction
Haemoglobin analysis	Fractions and transfusion history	Supports classification with clinical context

Worked Example

A fictional film has sickled cells and target cells with an HbS-containing profile. Recent transfusion can affect fractions, so confirm the context before classifying genotype.

Result and Interpretation

Explain why no single cell shape or one screening result settles the subtype.

Viva Questions and Answers

What does a reticulocyte rise suggest?

Increased marrow response when the marrow can respond.

Is every target cell due to thalassaemia?

Target cells also occur in other haemoglobinopathies and liver disease.

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