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Liver Function Viral Serology and Jaundice

Practical 07 / Report and data interpretation

Aim

Interpret a jaundice case using bilirubin fractions, enzyme patterns, synthetic function and hepatitis serology.

Principle

Marked transaminase elevation and disproportionate cholestatic enzyme elevation suggest different patterns. Serology adds information about exposure, immunity or infection depending on the marker combination.

Materials and Requirements

- Teaching liver chemistry, coagulation and viral marker reports
- Case history and supplied imaging result

Procedure

1. Record timeline, symptoms, medication history and the test units. Look for concerning illness and involve the supervisor promptly.
2. Build a time line for symptoms, drug or supplement exposure, relevant travel and the laboratory dates. Check that results belong to the same case and use the printed limits.
3. Compare bilirubin fractions and ALT and ALP relative to their method limits. Review INR and albumin in context.
4. Compare direct and total bilirubin in matching units. Calculate ALT and ALP as multiples of their upper reference limits and compare the predominance with the supplied clinical findings.

Continue with step 5 on the next page.

Procedure Continued

Liver Function Viral Serology and Jaundice

5. Review INR, albumin and the trend with the clinical record. Note possible non-hepatic influences on individual tests and which findings increase the urgency of review.
6. Interpret the exact supplied viral markers and examine whether timing or a confirmatory test is needed.
7. Write the name of each viral antigen, antibody or nucleic acid test before interpreting it. Combine the markers on the relevant case chart and identify when repeat or confirmatory testing is needed.
8. Compare a cholestatic case with a predominantly hepatocellular one and formulate a targeted follow-up question.
9. Give a short report with timeline, dominant biochemical pattern, particular serology finding and next step. Flag abnormal coagulation or deteriorating status through the supervised pathway.

Precautions

- Do not infer obstruction from one laboratory value.
- Interpret coagulation values with anticoagulant and other relevant clinical context.

Observations and Interpretation

Liver Function Viral Serology and Jaundice

Observations and Record

Item	What to record	What it tells you
Injury pattern	ALT, AST and ALP relative to limits	Supports interpretation of injury pattern
Function and fractions	INR, albumin and direct bilirubin	Add severity and context
Serology	Marker, date and combination	Distinguishes an exposure or immunity pattern from unresolved disease

Worked Example

Fictional anti-HBs positive, total anti-HBc negative and HBsAg negative is consistent with vaccine-associated immunity in the appropriate context. Verify the full panel and history.

Result and Interpretation

Summarise the likely biochemical pattern, the supported serology interpretation and any urgent concern.

Viva Questions and Answers

What does HBsAg suggest when confirmed?

Current hepatitis B infection, with timing and other markers informing the phase.

Why compare ALT and ALP to their own limits?

The raw numbers use different reference distributions and cannot be compared directly.

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