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Yashvi M. Patel
Age : 21 Years
Sex : Female
UHID : 556

Sample Collected At:
125, Shiv complex, S G Road, Mumbai
Sample Collected By: Mr Suresh
Ref. By: **Dr. Hiren Shah**

0 35545 62336 78 1
Registered on: 02:31 PM 02 Dec, 2X
Collected on: 03:11 PM 02 Dec, 2X
Reported on: 04:35 PM 02 Dec, 2X

BLOOD GAS ANALYSIS, ARTERIAL

Investigation	Result		Reference Value	Unit
Primary Sample Type :	Blood (3 ml)		TAT: 8 hr (Normal : 8 - 10 hrs)	
BLOOD GAS ANALYSIS, ARTERIAL				
pH	7.40	Normal	7.35 - 7.45	
PCO2	40.00	Normal	35.00 - 45.00	mmHg
BICARBONATE (HCO3)	25.00	Normal	21.00 - 28.00	mEq/L
TOTAL CO2 CONTENTS (TCO2)	26.00	Normal	23.00 - 27.00	mmol/L
STANDARD BICARBONATE (SBC)	24.00	Normal	22.00 - 26.00	mEq/L
BASE EXCESS	1.00	Normal	-2.00 - 3.00	mEq/L
PO2	100.00	Normal	83.00 - 108.00	mmHg
OXYGEN SATURATION CAPACITY	96.00	Normal	95.00 - 98.00	%
BASE EXCESS - EXTRACELLULAR FLUID	0.01	Normal	<0.02	mEq/L
HEMOGLOBIN	14.00	Normal	13.00 - 18.00	g/dL

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Interpretation:
Interpreting arterial blood gas (ABG) analysis involves assessing various parameters to evaluate the patient's acid-base balance, oxygenation status, and overall respiratory function. Here's a general guide to interpretation:

pH:
- Normal arterial pH range: 7.35-7.45.
- Acidosis: pH < 7.35 indicates acidosis, which can be respiratory (caused by CO2 retention) or metabolic (caused by bicarbonate abnormalities).
- Alkalosis: pH > 7.45 indicates alkalosis, which can be respiratory (caused by excessive CO2 elimination) or metabolic (caused by bicarbonate excess).

Partial Pressure of Oxygen (PaO2):
- Normal range: 75-100 mmHg (in adults breathing room air).
- Hypoxemia: PaO2 < 80 mmHg suggests hypoxemia, which can result from various conditions affecting oxygenation (e.g., respiratory disorders, cardiovascular diseases).
- Hyperoxemia: PaO2 > 100 mmHg may indicate excessive oxygen supplementation.

Partial Pressure of Carbon Dioxide (PaCO2):
- Normal range: 35-45 mmHg.
- Hypercapnia: PaCO2 > 45 mmHg indicates hypercapnia, suggesting respiratory acidosis due to inadequate ventilation.
- Hypocapnia: PaCO2 < 35 mmHg suggests hypocapnia, indicating respiratory alkalosis due to excessive ventilation.

Bicarbonate (HCO3-):
- Normal range: 22-26 mEq/L.
- Metabolic Acidosis: Low HCO3- (<22 mEq/L) with a low pH indicates metabolic acidosis, which can be caused by conditions such as renal failure, diabetic ketoacidosis, or lactic acidosis.
- Metabolic Alkalosis: High HCO3- (>26 mEq/L) with a high pH suggests metabolic alkalosis, often seen in conditions such as vomiting or excessive diuretic use.

Base Excess (BE):
- Base excess represents the amount of excess or deficit of buffer (bicarbonate) in the blood.
- Negative BE (< -2 mEq/L) suggests metabolic acidosis, while positive BE (> +2 mEq/L) suggests metabolic alkalosis.

Oxygen Saturation (SaO2):
- Normal range: 95-100%.
- Oxygen saturation reflects the percentage of hemoglobin saturated with oxygen in arterial blood.
- Low SaO2 indicates hypoxemia and impaired oxygen delivery to tissues.

Thanks for Reference

****End of Report****

Medical Lab Technician
(DMLT, BMLT)

Dr. Payal Shah
(MD, Pathologist)

Dr. Vimal Shah
(MD, Pathologist)

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Sample Collection 0123456789