



# P K R JAIN HEALTHCARE INSTITUTE

NASIRPUR, Hissar Road, AMBALA CITY- (Haryana)

**A PIONEER DIAGNOSTIC CENTRE**

☎ 0171-2532620, 8222896961 ✉ [pkrajainhealthcare@gmail.com](mailto:pkrajainhealthcare@gmail.com)

<b>NAME</b>	: Mr. VINOD KUMAR	<b>PATIENT ID</b>	: 1618019
<b>AGE/ GENDER</b>	: 66 YRS/MALE	<b>REG. NO./LAB NO.</b>	: 122409190003
<b>COLLECTED BY</b>	:	<b>REGISTRATION DATE</b>	: 19/Sep/2024 08:46 AM
<b>REFERRED BY</b>	:	<b>COLLECTION DATE</b>	: 19/Sep/2024 08:50AM
<b>BARCODE NO.</b>	: 12504787	<b>REPORTING DATE</b>	: 19/Sep/2024 11:05AM
<b>CLIENT CODE.</b>	: P.K.R JAIN HEALTHCARE INSTITUTE		
<b>CLIENT ADDRESS</b>	: NASIRPUR, HISSAR ROAD, AMBALA CITY - HARYANA		

Test Name	Value	Unit	Biological Reference interval
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## CLINICAL CHEMISTRY/BIOCHEMISTRY

### KIDNEY FUNCTION TEST (BASIC)

UREA: SERUM	24.31	mg/dL	10.00 - 50.00
<i>by UREASE - GLUTAMATE DEHYDROGENASE (GLDH)</i>			
CREATININE: SERUM	0.95	mg/dL	0.40 - 1.40
<i>by ENZYMATIC, SPECTROPHOTOMETRY</i>			
BLOOD UREA NITROGEN (BUN): SERUM	11.36	mg/dL	7.0 - 25.0
<i>by CALCULATED, SPECTROPHOTOMETRY</i>			
BLOOD UREA NITROGEN (BUN)/CREATININE RATIO: SERUM	11.96	RATIO	10.0 - 20.0
<i>by CALCULATED, SPECTROPHOTOMETRY</i>			
UREA/CREATININE RATIO: SERUM	25.59	RATIO	
<i>by CALCULATED, SPECTROPHOTOMETRY</i>			
URIC ACID: SERUM	6.78	mg/dL	3.60 - 7.70
<i>by URICASE - OXIDASE PEROXIDASE</i>			



  
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#### INTERPRETATION:

Normal range for a healthy person on normal diet: 12 - 20

To Differentiate between pre- and postrenal azotemia.

#### **INCREASED RATIO (>20:1) WITH NORMAL CREATININE:**

- 1.Prerenal azotemia (BUN rises without increase in creatinine) e.g. heart failure, salt depletion,dehydration, blood loss) due to decreased glomerular filtration rate.
- 2.Catabolic states with increased tissue breakdown.
- 3.GI hemorrhage.
- 4.High protein intake.
- 5.Impaired renal function plus .
- 6.Excess protein intake or production or tissue breakdown (e.g. infection, GI bleeding, thyrotoxicosis, Cushings syndrome, high protein diet, burns,surgery, cachexia, high fever).
- 7.Urine reabsorption (e.g. ureterocolostomy)
- 8.Reduced muscle mass (subnormal creatinine production)
- 9.Certain drugs (e.g. tetracycline, glucocorticoids)

#### **INCREASED RATIO (>20:1) WITH ELEVATED CREATININE LEVELS:**

- 1.Postrenal azotemia (BUN rises disproportionately more than creatinine) (e.g. obstructive uropathy).
- 2.Prerenal azotemia superimposed on renal disease.

#### **DECREASED RATIO (<10:1) WITH DECREASED BUN :**

- 1.Acute tubular necrosis.
- 2.Low protein diet and starvation.
- 3.Severe liver disease.
- 4.Other causes of decreased urea synthesis.
- 5.Repeated dialysis (urea rather than creatinine diffuses out of extracellular fluid).
- 6.Inherited hyperammonemias (urea is virtually absent in blood).
- 7.SIADH (syndrome of inappropriate antidiuretic hormone) due to tubular secretion of urea.
- 8.Pregnancy.

#### **DECREASED RATIO (<10:1) WITH INCREASED CREATININE:**

- 1.Phenacimide therapy (accelerates conversion of creatine to creatinine).
- 2.Rhabdomyolysis (releases muscle creatinine).
- 3.Muscular patients who develop renal failure.

#### **INAPPROPRIATE RATIO:**

- 1.Diabetic ketoacidosis (acetoacetate causes false increase in creatinine with certain methodologies,resulting in normal ratio when dehydration should produce an increased BUN/creatinine ratio).
- 2.Cephalosporin therapy (interferes with creatinine measurement).



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## ELECTROLYTES PROFILE: SODIUM AND POTASSIUM

SODIUM: SERUM by ISE (ION SELECTIVE ELECTRODE)	139.3	mmol/L	135.0 - 150.0
POTASSIUM: SERUM by ISE (ION SELECTIVE ELECTRODE)	4.71	mmol/L	3.50 - 5.00

### INTERPRETATION:-

#### **SODIUM:-**

Sodium is the major cation of extra-cellular fluid. Its primary function in the body is to chemically maintain osmotic pressure & acid base balance & to transmit nerve impulse.

#### **HYPONATREMIA (LOW SODIUM LEVEL) CAUSES:-**

1. Low sodium intake.
2. Sodium loss due to diarrhea & vomiting with adequate water and inadequate salt replacement.
3. Diuretics abuses.
4. Salt loosing nephropathy.
5. Metabolic acidosis.
6. Adrenocortical insufficiency .
7. Hepatic failure.

#### **HYPERNATREMIA (INCREASED SODIUM LEVEL) CAUSES:-**

1. Hyperapnea (Prolonged)
2. Diabetes insipidus
3. Diabetic acidosis
4. Cushing's syndrome
5. Dehydration

#### **POTASSIUM:-**

Potassium is the major cation in the intracellular fluid. 90% of potassium is concentrated within the cells. When cells are damaged, potassium is released in the blood.


#### **HYPOKALEMIA (LOW POTASSIUM LEVELS):-**


1. Diarrhoea, vomiting & malabsorption.
2. Severe Burns.
3. Increased Secretions of Aldosterone

#### **HYPERKALEMIA (INCREASED POTASSIUM LEVELS):-**

1. Oliguria
2. Renal failure or Shock
3. Respiratory acidosis
4. Hemolysis of blood



  
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## CLINICAL PATHOLOGY

### PROTEINS: RANDOM URINE

PROTEINS: RANDOM URINE  
by BIURET, SPECTROPHOTOMETRY  
INTERPRETATION:

31.23<sup>H</sup> mg/dL 5 - 25

TYPES OF PROTEINURIA	TOTAL PROTEINS IN mg/24 HOURS	CONDITIONS
MINIMAL PROTEINURIA:	150 - 500 mg/24 hours	Chronic pyelonephritis, Chronic Interstitial Nephritis, Renal Tubular disease, Postural
MODERATE PROTEINURIA:	500 - 1000 mg/24 hours	Nephrosclerosis, Multiple Myeloma, Toxic Nephropathy, Renal Calculi
HEAVY PROTEINURIA:	1000 - 3000 mg/24 hours	Nephrotic Syndrome, Acute Rapidly Progressive & Chronic Glomerulonephritis, Diabetes mellitus, Lupus erythematosus, Drugs like Pencillamine, Heavy metals like Gold & Mercury.

**NOTE:**  
1.Excretion of total protein in individuals is highly variable with or without kidney disease.  
2.Conditions affecting protein excretion other than kidney disease are urinary tract infection, diet, menstruation & physical activity.

**COMMENT:**  
1.Diagnosis of kidney disease and response to therapy is usually obtained by quantitatively analyzing the amount of protein excreted in urine over a 24 hour period.

**NOTE:- IF A PATIENT HAS = 1+ PROTEINURIA (30 mg/dl) BY URINE DIPSTICK (URINEANALYSIS), OVERT PROTEINURIA IS PRESENT AND TESTING FOR MICROALBUMIN IS INAPPROPRIATE. IN SUCH A CASE, URINE PROTEIN:CREATININE RATIO OR 24 HOURS TOTAL URINE MICROPROTEIN IS APPROPRIATE.**

\*\*\* End Of Report \*\*\*



  
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