



DEPARTMENT OF BIOCHEMISTRY GOVERNMENT MEDICAL COLLEGE, KATHUA

Email: biochemgmck@yahoo.com

GENERAL INTRODUCTION ABOUT THE DEPARTMENT

➤ Biochemistry or biological chemistry, is the study of chemical processes within and relating to living organisms. Biochemistry is one of the pillars on which modern medicine is working & progressing. In our department, biochemistry is explained in detail by sub-classifications such as structural biology, enzymology and metabolism. Theoretical lectures are backed with the laboratory applications. Our vision as a department is to educate and train phase-I students who have the mission to present the scientific skills in accordance with ethical principles and critical analytical thinking who in future will represent our institution at national as well as international levels. Department of Biochemistry in the Medical College Kathua has sufficient faculty for the conduct of all academic & research activities.

VISION

- To impart medical knowledge of the subject of the utmost standards
- To provide quality laboratory services for better patient care.
- To inculcate the research attitude in candidates.

DEPARTMENT

➤ Biochemistry or biological reactions is something that connects us aptly with the health care and makes us one of the many departments that deal with the disease diagnosis, progress and furthermore the treatment.

- ✓ We have a central laboratory in the hospital located at the first floor & we as a department are going to start automatic and are in the process of installing Fully Automated Biochemistry analyser for all the Routine as well as emergency Biochemical investigations like Blood Sugar, Urea, Creatinine, Bilirubin, SGOT, SGPT, S. Alkaline Phosphatase, Cholesterol, S. Triglycerides, S. Amylase, S. Uric Acid, S. Total Protein, S. Albumin, S. Globulin, Sodium, Potassium levels.

✓ We are in the process of setting up fully automated analyser for Hormonal Assays and will be catering to patient care in a better way and aspire to get better and better day by day.

✓ In Biochemistry, experimentation & research go hand in hand. Research Laboratory for facilitation of research activities is being established in the department with following equipments which are already ordered and are in the process of procuring ELISA reader, Deep Freezer, Homogeniser, PCR, Spectrophotometer, TLC, Electrophoresis and autopipettes.

OBJECTIVES OF BIOCHEMISTRY LABORATORY

- To provide quality Biochemistry lab services to the patient.
- To cater all patient care areas of the hospital round the clock.
- To follow all Infection Prevention & Bio- Medical Waste Management protocols.
- To reduce waiting time of the patient for obtaining sample & providing report in committed time.
- To provide all free diagnostic services under JSSK.

INFORMATION ABOUT STAFF

S. No	NAME	DESIGNATION	CONTACT NUMBER	E-MAIL ADDRESS
1	Dr. Ranjan Katyal	Professor & Head	9805345331	ranjankatyal@gmail.com
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ACADEMIC ACTIVITIES

- Theory classes
- Practical classes
- Demonstration
- Seminars
- AETCOM/Early clinical exposure
- Small group discussions/ SDL
- Extracurricular activities
- Research activities
- Biochemistry descriptive charts

DEPARTMENTAL LIBRARY

- Biochemistry Department has furnished, well stacked Departmental Library cum Seminar room with 80 to 100 books

LIST OF EQUIPMENTS IN THE DEPARTMENT AND LAB

- Photometer
- Incubator
- Hot Air Oven
- Electrolyte Analyzer
- Centrifuge Machine
- Refrigerator
- Semi- Auto Analyzer
- Deep Freezer
- Electrophoresis
- Elisa washer reader
- pH meter
- Spectrophotometer
- Centrifuge machine
- Microscopes
- Water Bath
- Photoelectric colorimeter
- Hot plate cum magnetic stirrer
- Weighing machine
- Fully Automated Analyzers
- Electrolyte Analyzers
- ABG Analyzer

Dr. RANJAN KATYAL

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Department: Biochemistry

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PUBLICATIONS

1. Biochemical changes in rat red blood cells after chronic oral administration of aluminium.
B. Design, **R Katyal**, S. Ojha.
Medical Science Research Oct. Vol. 23/10; 665-666, 1995.
2. Mild to Moderate Malnutrition in small Intestine of young Rhesus Monkeys.
SV Rana, D Gupta, AK Malik, **R Katyal**, SK Mehta
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3. Study of Oxidative stress in rotavirus infected infant mice.
CP Sodhi, **R Katyal**, SV Rana, S Attri, V Singh
Indian J. Med Res. Oct. Vol. 104; 245-249, 1996.
4. Protein-energy malnutrition and oxidative injury in growing rats
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6. Study of leucine uptake & related enzymes of rotavirus infected PEM mice.
R Katyal, V Singh, K Vaiphei, S Ohja, SV Rana
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7. Effect of Rotavirus infection on small gut pathophysiology in mouse model.
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8. Protective Efficacy of trypsin inhibitor on the gut following rotavirus infection in malnourished infant mice
R Katyal, S. Ohja, SV Rana, K. Vaiphei, K Singh and V Singh
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9. Influence of soya bean trypsin inhibitor on small bowel enzyme activities during rotavirus infection in malnourished infant mice.
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R Katyal, S V Rana and V Singh
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12. Isoniazid and Rifampicin-induced oxidative hepatic injury-protection by acetylcysteine.
S Attri, SV Rana, K Vaiphei, CP Sodhi, **R Katyal**, RC Goel, CK Nain and K Singh.
Human and Exp. Toxicol.19; 517-522, 2000.

13. Breath Tests: An Overview.
R. Katyal, SV Rana, K Singh
Gastroenterology Today 4(3); 111-116, 2000
14. Effect of alcohol dependence on the levels of duodenal disaccharidases in human subjects.
D Sneden, DK Bhasin, SV Rana, **R Katyal** and K Singh.
Ind. J. Physiology Pharmacology 44(4); 495-499, 2000.
15. Effect on *Giardia lamblia* on duodenal disaccharidase levels in humans.
KD Singh, DK Bhasin, SV Rana, K Vaiphei, **R Katyal**, VK Vinayak, K Singh.
Tropical Gastroenterol 21; 174-176, 2000.
16. Comparison of duodenal & jejunal disaccharidase levels in non-ulcer dyspepsia patients.
SV Rana, DK Bhasin, **R Katyal** and K Singh.
Tropical Gastroenterol 22; 135-136, 2001.
17. Mild-to-Moderate malnutrition alters glutathione, γ -glutamyltranspeptidase and glycine uptake in small intestinal brush-border vesicles of rhesus monkeys.
SV Rana, D Gupta, **R Katyal** and K Singh.
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18. Effect of rotavirus infection on small bowel lipid composition and glucose uptake in infant mice.
R Katyal, S V Rana, K Vaiphei, S Ojha, K Singh and V Singh.
Indian J. Gastroenterol 20; 18-21, 2001.
19. Protection against rotavirus diarrhea in mice by trypsin inhibitor.
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20. Protection against rotavirus challenge in mice orally inoculated with trypsin inhibitor.
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Ind. J. Medical Research 113; 40-47, 2001.
21. Protective effect of N-Acetylcysteine in isoniazid induced hepatic injury in young rats.
S Attri, SV Rana, K Vaiphei, **R Katyal**, CP Sodhi and K Singh.
Ind. J. Exp. Biol. 39; 436-440, 2001.
22. Duodenal disaccharidases alterations in chronic smokers.
D Kaura, DK Bhasin, SV Rana, **R Katyal**, K Vaiphei, K Singh.
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R. Katyal, C Vaishnavi, K Singh.
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24. Study of hepatitis B and C viral markers in patients of chronic liver diseases.
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26. Lipid peroxide levels and antioxidant status in alcoholic liver disease.
S. Gupta, R. Pandey, **Ranjan Katyal**, H.K. Aggarwal, R.P. Aggarwal, S. K. Aggarwal.
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28. Alcohol and periodontal health in adolescence.
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29. Adelfa : A Diminutive review
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30. Pharmaco-Economical Prevalence of Patients Non compliance in Dental Therapy in Solan (H.P.)
Deepak Prashar, Sanjay Kumar, **Ranjan Katyal**, Anjil Adya.
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31. Pharmaco-Economical and Nutritional Overview of Rosemary
Ranjan Katyal, Deepak Prashar, Sanjay Kumar
Actapharmica 84-87, vol 2(2), 2015.
32. Nutritional Aspects of Four Common Spices Used in Dentistry
Ranjan Katyal, Deepak Prashar
International Journal of Pharma Sciences and Research 87-88, vol 6(1), 2015
33. Study on Prevalence of Subclinical Hypothyroidism in Mountainous Region
Surinder Kumar Garg, **Ranjan Katyal**
Global J for Research Analysis 1-2, vol 9(11), 2020.
34. Study on Evaluation of Serum Electrolytes in Patients with Acute Intestinal Obstruction.
Surinder Kumar Garg, Ranjan Katyal
Ind J of Applied Research 1-2, vol 10(11), 2020.

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PUBLICATIONS

- Agrawal P, Mehta S, Gupta M, Khare P. Prevalence of hypothyroidism in the first trimester pregnancy in primigravida in North India. Indian J ObstetGynecol Res 2019
- Agrawal P, Chopra D, Gupta M, Gaurav S. Toxicity of organic solvent in a young painter presenting as transient hepatitis: A case report. Indian J OccupEnviron Med 2019; 24(1); 33-35
- Pandey S, Agrawal P, Rawat A, Gupta M, Khare P. Hypertriglyceridemia in ababy with thalassemia major. Indian J Med Spec 2020; 11:157-60.
- Kapoor A, Singh K, Gupta M. A Community based study on COVID-19 Preventive Practises and Associated Problems among the Urban Population of Kathua City(J&K) Annals of R.S.C.B., Vol. 25, Issue 6,2021, Pages. 2680- 2685
- Gupta M. Evaluation of Vitamin D Levels in Pregnancy Induced Hypertension- International Journal of Health and Clinical

RESEARCH PUBLICATIONS DURING LAST ONE YEAR

- Gupta M. Role of Serum copper in Dysfunctional Uterine Bleeding (DUB).International Journal of Health and Clinical Research. 2021;4(15):313-315.
- Gupta M. Evaluation of Vitamin D Levels In Pregnancy Induced Hypertension. International Journal of Health and Clinical Research. 2021;4(10):115-117.
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PRESENTATIONS

- Oxidative Stress Markers In Pre-Eclampsia: A Prospective Study. Ambicon 2019 12-15 December,2019 Dayanand Medical College & Hospital, Ludhiana.
- Effect Of Dietary Habits & Lifestyle Patterns On Lipid Profile, Atherogenic Index In Non Diabetics. Ambicon 2015. PGIMS , Rohtak.
- Oxidative Stress, Paraoxonase Levels & Atherogenicity In Post Menopausal Women International Humboldt Kolleg On The Bench To Bedside Translational Research – Potential Benefits Of Interdisciplinary Collaboration. 15 - 17November from 15th to 17th Nov,2013 at Manipal University, Manipal.