

**Third
Edition**

Clinical Case Discussion in **Biochemistry**

A Book on Early Clinical Exposure (ECE) Based on NExT1 Pattern of Examination

Highlights

- Clinical case based approach to biochemistry for healthcare students
- More than 100 clinical cases presented in sequential and topic wise manner
- Case presentation is followed by sets of questions which are explained in detail
- Biochemical basis of clinical signs and symptoms explained in simplified language
- A lot of diagrams, tables included to explain all biochemical dimensions of a particular case scenario
- Ultimate book to prepare medical students for NExT1 pattern of examination
- Must have book for all healthcare students for learning biochemistry in clinical correlated manner which help them better understand the disease presentation and its approach.

Poonam Agrawal MBBS, MD, FIMSA, ACME

is currently Professor and Head, Department of Biochemistry, and MEU Head, Dr Baba Saheb Ambedkar Medical College and Hospital, New Delhi. She has been actively involved in teaching biochemistry to medical undergraduate and postgraduate students for the past 17 years. Teaching is her passion and she is popular among her students for simplified and fascinating approach towards the subject with strong clinical connections. Other popular books which she has authored are *Competency-Based Textbook of Biochemistry with Clinical Approach and Case Studies for MBBS Students*, *Concepts in Biochemistry based on CBME*; *Practical Biochemistry based on CBME* and *Review of Biochemistry for PGME*, all brought out by CBSPD.

She has completed Advance Course in Medical Education (ACME) conducted by MCI in 2017 and has completed and published many innovative projects in the field of medical education.

She is actively involved in research and patient care and her areas of interest are diabetic complication, thyroid dysfunction, novel biomarkers and medical education. She has won a number of awards for her research work presentations at various national and international events.



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Poonam Agrawal



More than 100 Clinical Cases Explained on the basis of
Biochemistry and Molecular Biology

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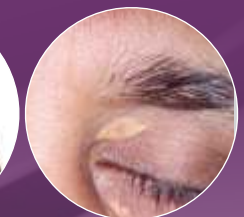
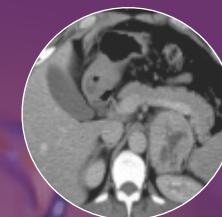
Clinical Case Discussion in **Biochemistry**

A Book on Early Clinical Exposure (ECE)

As per the latest CBME Guidelines | Competency Based
Undergraduate Curriculum for the Indian Medical Graduate

Vertical and Horizontal Integration Based Approach

Based on NExT1 Pattern of Examination



Poonam Agrawal



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Third Edition

Clinical Case Discussion in
Biochemistry

Based on NExT-I Pattern of Examination

A Book on Early Clinical Exposure (ECE)

As per the latest CBME Guidelines | Competency Based
Undergraduate Curriculum for the Indian Medical Graduate

Book Review for *Clinical Case Discussion in Biochemistry*

Dr Poonam Agrawal

"My gratitude to this book and the amazing author of this masterpiece—our HOD, Department of Biochemistry—Dr Poonam Agrawal Ma'am is something that I would never forget and cherish for my whole life as a future doctor.

This book discusses hundreds of clinical cases of medical world with important biochemical basis for their clinical signs and symptoms, that helped me to secure distinction in subject of biochemistry for first professional university examination and make my concepts crystal clear for future as well, enlightening me on the path of becoming a good doctor.

I truly appreciate the immense hard work and time that ma'am spent on writing this masterpiece and would encourage other students too, to read this book and fall in love with the wonderful subject of biochemistry, once again.

Thank you so much ma'am, for all that you have done to make our medical studies fascinating and guiding us on the path for a bright future..."



Vyomesh Rastogi

3rd Year MBBS student
Dr BSAMCH, New Delhi
College Batch Topper and University Rank 3

The Clinical Case book by Dr Poonam Agrawal Ma'am is very good book. This book contains all the diseases that should be covered in the first year, up to this time we had read many diseases. The content of the book is easy to remember and can be written easily in exam which helps us to score good marks.

Ajay Singh

MBBS
Batch 2022

Clinical Case Discussion

I find Clinical Case book is one of the best books that I have studied, it helps to understand clinical cases. It gives me feel that we are slowly becoming doctors. These cases fascinates me a lot...

Alok Pandey

MBBS, 2022 Batch

Feedback of Clinical Case Discussion book

The main highlight of this book is that it covers variety of cases which we will be dealing with in our clinics. The diagrams and graphs in the book really helps with clear understanding of the disease and its diagnosis. The question-answer format of the book for every case makes it very interesting to read and makes understanding of every case clear.

Hardik Dhochak

MBBS
Batch 2022

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Poonam Agrawal

MBBS MD FIMSA ACME

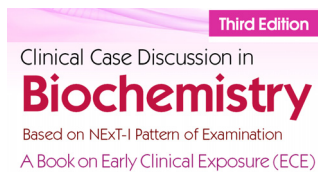
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to

my father

Dr Shri Prakash Agrawal and

my father-in-law

Mr Ram Baboo Agarwal

Preface to the Third Edition

I feel privileged to write Preface to the third edition of this book.

Clinical Case Discussion in Biochemistry was launched in 2021 as a novel and unique approach to fill the gap in biochemistry of clinical correlation of the subject and provide ECE (early clinical exposure) to healthcare students. Since that time this book has gone into two editions and reprints. In this edition, being launched in 2024, I am presenting completely revised and updated version of the book.

Many additional cases like *cystic fibrosis, orotic aciduria, fatty liver in alcoholics* are added on popular demand of faculties and learners from all over India.

In addition to new cases, the existing cases are strengthened with **additional questions** and their to-the-point explanations. I have taken this opportunity to add certain *more illustrations like CT film of bronchiectasis, LDL receptors, mitochondrial DNA and its various elements, link of urea cycle and pyrimidine nucleotide biosynthesis in OTC deficiency, etc.* to make concept more easy to grasp and for better retention.

I strongly believe that students find this edition much more useful than its previous editions and will help them to correlate biochemistry clinically in hospital and community set ups.

Feedback and suggestions are most welcome.

Poonam Agrawal

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Preface to the First Edition

Clinical approach to biochemistry has been greatly emphasized for teaching this subject in medical colleges in **latest MCI guidelines on Competencies Based Medical Education (CBME) as per GMER regulation 2019**. Even in the assessment, the clinical understanding of the subject in form of **Case Based Questions (CBQs)** is greatly emphasized in latest curriculum.

In this context I felt the need of an exclusive book for medical undergraduates which **simplify the clinical understanding of biochemistry** and make the subject more relevant to learn in medical colleges.

The whole journey of writing this book has been an enriching experience. Case presentations are meticulously planned in such a manner that they are typical and close to actual clinical scenarios. CBQs are designed in such a manner as to generate the curiosity in learner mind and at the same time help in clear understanding of the biochemistry basics.

While describing the clinical connections, special precaution has been taken to keep the **discussion simple**, keeping in mind that first year medical undergraduate student who is reading this book has no exposure to patients or hospital settings in the real world.

This book is first of its kind and I am confident that this book will be very easy to follow by the students. I strongly believe that learners find this book useful in making their clinical concepts clear and make them confident **to face Case Based Questions (CBQs) during their assessment**.

Feedback and comments are most welcomed and will be duly acknowledged in the next edition.

Wish you all the very best!!

Poonam Agrawal

drpoonam24agrwal@yahoo.com

You Tube link to my channel: <https://www.youtube.com/channel/UCzaWN-XIwROWrV-Aa8NBLiQ/>

Acknowledgments

First of all, I thank the Almighty for giving me strength and courage to work hard to best of my abilities and contribute to medical fraternity.

The whole journey of writing this book right from drafting the clinical cases along with the questions which is capable of giving greater insight to the biochemical aspect of the topic has been challenging but at the same time a thrilling experience.

I owe my sincere thanks and gratitude to many but first of all I wish to thank my husband **Dr Mohit Agarwal**, who has been a constant guide and motivator throughout the preparation of this book. His thoughtful insight has been instrumental in designing the book.

I appreciate my **daughter Misti** for her understanding and full cooperation when I was very busy in writing this book and could not completely assist her during her online classes. My pet (**peanut**) deserves a special mention for giving me company in early morning hours when I used to be the only person awake to write the book.

I am thankful to the whole team of CBS Publishers & Distributors, Mr SK Jain, CMD; Mr YN Arjuna, Senior Vice President—Publishing, Editorial and Publicity; Ms Ritu Chawla, General Manager; Mr Vikrant Sharma, Mr Neeraj Prasad, Mr Manish Raj, and Mr Prasenjit Paul for giving me this opportunity to publish my work.

Poonam Agrawal

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Contents

<i>Preface to the Third Edition</i>	<i>vii</i>
<i>Preface to the First Edition</i>	<i>ix</i>

Section I: Carbohydrate Metabolism

CASE 1: Classical Galactosemia	1
CASE 2: Glucose-6-Phosphate Dehydrogenase Deficiency	4
CASE 3: Hereditary Fructose Intolerance	8
CASE 4: Lactose Intolerance	11
CASE 5: Sucrose Intolerance	15
CASE 6: Diabetes Mellitus	18
CASE 7: Diabetic Ketoacidosis	22
CASE 8: Correct Vacutainer for Blood Collection for Glucose Estimation	25
CASE 9: von Gierke Disease (Glycogen Storage Disorder Type Ia)	28
CASE 10: Cori Disease/Forbes Disease/Limit Dextrinosis (Glycogen Storage Disorder Type III)	31
CASE 11: McArdle Disease (Glycogen Storage Disorder Type V)	34
CASE 12: Pompe Disease (Glycogen Storage Disorder Type II)	38
CASE 13: Hurler Syndrome (Mucopolysaccharidosis Type I)	40
CASE 14: Hunter Syndrome (Mucopolysaccharidosis Type II)	44

Section II: Lipid Metabolism

CASE 15: Zellweger Syndrome	47
CASE 16: Refsum Disease	50
CASE 17: Respiratory Distress Syndrome (RDS)	52
CASE 18: Carnitine Deficiency in Premature Baby	54
CASE 19: Type IIa Hyperlipoproteinemia (Familial Hypercholesterolemia)	56
CASE 20: Acute Pancreatitis in Hypertriglyceridemia	59
CASE 21: Type III Hyperlipoproteinemia (Remnant Removal Disease or Broad Beta Disease)	61
CASE 22: Xanthelasma	65
CASE 23: Tay-Sachs Disease	67
CASE 24: Niemann-Pick Disease	69
CASE 25: Jamaican Vomiting Sickness	71
CASE 26: Sudden Infant Death Syndrome (SIDS)	73

Section III: Amino Acid Metabolism

CASE 27: Urea Cycle Disorder	75
CASE 28: Phenylketonuria (PKU)	78
CASE 29: Albinism	81
CASE 30: Vitiligo/Leukoderma	83
CASE 31: Pheochromocytoma	85
CASE 32: Parkinson's Disease	88
CASE 33: Tyrosinemia Type I (Tyrosinosis)	91
CASE 34: Tyrosinemia Type II (Richner-Hanhart Syndrome/ Oculocutaneous Involvement)	93
CASE 35: Alkaptonuria	96
CASE 36: Hartnup's Disease	98
CASE 37: B ₆ Pellagra	101
CASE 38: Carcinoid Syndrome	104
CASE 39: Classical or Typical Homocystinuria	107
CASE 40: Maple Syrup Urine Disease (MSUD)	110
CASE 41: Isovaleric Acidemia	113

Section IV: Enzymes

CASE 42: Myocardial Infarction and Enzyme Marker	115
CASE 43: Acute Pancreatitis	118
CASE 44: Ethanol used as Therapeutic Agent in Methanol Poisoning	121

Section V: Vitamins

CASE 45: Scurvy in Adult	123
CASE 46: Scurvy in Child	126
CASE 47: Vitamin B ₁ Deficiency (Wernicke-Korsakoff Psychosis)	128
CASE 48: Wet Beriberi (Shoshin Beriberi)	131
CASE 49: Ariboflavinosis (Vitamin B ₂ Deficiency)	133
CASE 50: Pellagra (Niacin Deficiency)	135
CASE 51: B ₆ Deficiency in Isoniazid (INH) Treatment	138
CASE 52: Biotin Deficiency in Raw Egg Consumption	140
CASE 53: Vitamin B ₁₂ Deficiency in Vegans	142
CASE 54: Vitamin B ₁₂ Deficiency Presenting as Neurological Manifestation	144
CASE 55: Vitamin B ₁₂ Deficiency Presenting as Knuckle Hyperpigmentation	146
CASE 56: Folate Trap	148

CASE 57: Rickets	150
CASE 58: Osteomalacia Case 1	154
CASE 59: Osteomalacia Case 2	156
CASE 60: Vitamin D Toxicity	160
CASE 61: Vitamin A Deficiency	162
CASE 62: Vitamin A Toxicity	164
CASE 63: Vitamin K Deficiency in Newborn	166

Section VI: Mineral Metabolism

CASE 64: Iron Deficiency Anemia	169
CASE 65: Hemosiderosis, Bronze Diabetes, Bantu Siderosis	171
CASE 66: Hypocalcemic Tetany	174
CASE 67: Hypocalcemia in a Case of Respiratory Alkalosis	177
CASE 68: Dental Fluorosis	179
CASE 69: Keshan Disease/Endemic Cardiomyopathy	181
CASE 70: Indian Childhood Cirrhosis	183
CASE 71: Wilson Disease	185
CASE 72: Menke Kinky Steely Hair Syndrome	187
CASE 73: Acrodermatitis Enteropathica	189
CASE 74: Iodine Deficiency Multinodular Goiter (Hypothyroidism)	191

Section VII: Nutrition

CASE 75: Obesity	193
CASE 76: Marasmus	196
CASE 77: Kwashiorkor	197

Section VIII: Heme Metabolism

CASE 78: Lead Toxicity: Plumboporphyria and Lead-induced Anemia	201
CASE 79: Porphyria Cutanea Tarda (PCT)	203
CASE 80: Acute Intermittent Porphyria (AIP)	206
CASE 81: Prehepatic Jaundice	208
CASE 82: Rh Incompatibility(Erythroblastosis Fetalis) Presenting as Kernicterus	210
CASE 83: Hepatic Jaundice	212
CASE 84: Posthepatic/Obstructive Jaundice	215
CASE 85: Pathological Jaundice in Newborn (Dubin-Johnson Syndrome)	218

Section IX: Hemoglobinopathy

CASE 86: Sickle Cell Disease	221
CASE 87: Thalassemia Major	225

Section X: Collagenopathy

CASE 88: Marfan Syndrome (MFS)	227
CASE 89: Osteogenesis Imperfecta (Brittle Bone Diseases)	231
CASE 90: Ehlers-Danlos Syndrome	233

Section XI: Nucleotide Metabolism

CASE 91: Gout	237
CASE 92: Lesch-Nyhan Syndrome	241
CASE 93: Methotrexate and Antineoplastic Drug	243
CASE 94: 5-Fluorouracil and its Mechanism of Action	245

Section XII: Miscellaneous

CASE 95: Amyl Nitrite as an Antidote of Cyanide Poisoning	247
CASE 96: Cholera Toxicity	250
CASE 97: Multiple Myeloma	252
CASE 98: Nephrotic Syndrome	257
CASE 99: Inclusion Cell Disease (I Cell Disease or Mucopolipidosis II)	260
CASE 100: Leber Hereditary Optic Neuropathy (LHON)/ Congenital Amaurosis	262
CASE 101: Cystic Fibrosis	265
CASE 102: Orotic Aciduria	268
CASE 103: Fatty Liver in an Alcoholic Patient	272
<i>Index</i>	275