

A Study of Estimated Glomerular Filtration Rate In Chronic Kidney Disease

Krishna Murthy N, Nandini Takkalaki, Ashakiran S, Shashidhar K N, Ganesh G,
Harish R.

Department of Biochemistry, Sri Devaraj Urs Medical College, Kolar.

ABSTRACT

Background: Chronic kidney disease is a life threatening disease, which is a common cause of mortality and morbidity. The chronic kidney disease patients are at high risk of developing end stage renal disease, cardiovascular complications and stroke. Therefore, we carried out this study to know the functional status of kidneys in chronic kidney disease cases and to classify the chronic kidney disease into different stages by calculating estimated glomerular filtration rate.

Material and Methods: Twenty five cases of chronic kidney disease, between 25-70 years of age of either sex, admitted at R.L.Jalappa Hospital and Research Centre, Kolar, India and twenty five healthy age and gender matched controls were enrolled into the study. For calculating estimated glomerular filtration rate serum creatinine values, age, sex, race, and weight of the patients are considered.

Results: The mean estimated glomerular filtration rate in cases was 22.096 and in control group 118.28($p < 0.001$) as per Cockcroft Gault Equation and as per Modification of Diet in Renal Disease equation in cases it was 18.176 and in controls 113.796($p < 0.001$). The estimated glomerular filtration rate was significantly low in cases when compared with healthy subjects.

Conclusion: Estimated glomerular filtration rate better predicts the functional status of kidneys and is more accurate than serum creatinine and can be used to classify chronic kidney disease.

Key words: Chronic kidney disease (CKD), Cockcroft Gault Equation (CCG), Estimated Glomerular Filtration Rate (eGFR), End Stage Renal Disease (ESRD), glomerular filtration rate (GFR), Modification of Diet in Renal Disease(MDRD), Serum creatinine.

Corresponding Author:

Dr. Krishna Murthy N,

Prof. & HOD

Department of Biochemistry,
Sri Devaraj Urs Medical College,
Kolar,

Karnataka.

Mob: 9886848234

E-Mail: krisvita@gmail.com

INTRODUCTION

The estimated prevalence of CKD is approximately 10-15% in most countries. As per NHANES III data, the prevalence of chronic kidney disease was 37.8% among patients older than 70 years. The term end stage renal disease represents a stage of CKD, where there is accumulation of fluid, electrolytes, toxins like ammonia, uric acid which are normally excreted by kidney result in uremic syndrome, which ultimately leads to death.^[1]

Vol. 100, Part 1, 1970
No. 1, 1970

1	THE JOURNAL OF THE
2	ROYAL ANTHROPOLOGICAL INSTITUTE
3	LONDON
4	Vol. 100, Part 1, 1970
5	No. 1, 1970
6	CONTENTS
7	1. THE JOURNAL OF THE
8	ROYAL ANTHROPOLOGICAL INSTITUTE
9	LONDON
10	Vol. 100, Part 1, 1970
11	No. 1, 1970
12	CONTENTS
13	1. THE JOURNAL OF THE
14	ROYAL ANTHROPOLOGICAL INSTITUTE
15	LONDON
16	Vol. 100, Part 1, 1970
17	No. 1, 1970
18	CONTENTS
19	1. THE JOURNAL OF THE
20	ROYAL ANTHROPOLOGICAL INSTITUTE
21	LONDON
22	Vol. 100, Part 1, 1970
23	No. 1, 1970
24	CONTENTS
25	1. THE JOURNAL OF THE
26	ROYAL ANTHROPOLOGICAL INSTITUTE
27	LONDON
28	Vol. 100, Part 1, 1970
29	No. 1, 1970
30	CONTENTS
31	1. THE JOURNAL OF THE
32	ROYAL ANTHROPOLOGICAL INSTITUTE
33	LONDON
34	Vol. 100, Part 1, 1970
35	No. 1, 1970
36	CONTENTS
37	1. THE JOURNAL OF THE
38	ROYAL ANTHROPOLOGICAL INSTITUTE
39	LONDON
40	Vol. 100, Part 1, 1970
41	No. 1, 1970
42	CONTENTS
43	1. THE JOURNAL OF THE
44	ROYAL ANTHROPOLOGICAL INSTITUTE
45	LONDON
46	Vol. 100, Part 1, 1970
47	No. 1, 1970
48	CONTENTS
49	1. THE JOURNAL OF THE
50	ROYAL ANTHROPOLOGICAL INSTITUTE
51	LONDON
52	Vol. 100, Part 1, 1970
53	No. 1, 1970
54	CONTENTS
55	1. THE JOURNAL OF THE
56	ROYAL ANTHROPOLOGICAL INSTITUTE
57	LONDON
58	Vol. 100, Part 1, 1970
59	No. 1, 1970
60	CONTENTS
61	1. THE JOURNAL OF THE
62	ROYAL ANTHROPOLOGICAL INSTITUTE
63	LONDON
64	Vol. 100, Part 1, 1970
65	No. 1, 1970
66	CONTENTS
67	1. THE JOURNAL OF THE
68	ROYAL ANTHROPOLOGICAL INSTITUTE
69	LONDON
70	Vol. 100, Part 1, 1970
71	No. 1, 1970
72	CONTENTS
73	1. THE JOURNAL OF THE
74	ROYAL ANTHROPOLOGICAL INSTITUTE
75	LONDON
76	Vol. 100, Part 1, 1970
77	No. 1, 1970
78	CONTENTS
79	1. THE JOURNAL OF THE
80	ROYAL ANTHROPOLOGICAL INSTITUTE
81	LONDON
82	Vol. 100, Part 1, 1970
83	No. 1, 1970
84	CONTENTS
85	1. THE JOURNAL OF THE
86	ROYAL ANTHROPOLOGICAL INSTITUTE
87	LONDON
88	Vol. 100, Part 1, 1970
89	No. 1, 1970
90	CONTENTS
91	1. THE JOURNAL OF THE
92	ROYAL ANTHROPOLOGICAL INSTITUTE
93	LONDON
94	Vol. 100, Part 1, 1970
95	No. 1, 1970
96	CONTENTS
97	1. THE JOURNAL OF THE
98	ROYAL ANTHROPOLOGICAL INSTITUTE
99	LONDON
100	Vol. 100, Part 1, 1970
101	No. 1, 1970
102	CONTENTS
103	1. THE JOURNAL OF THE
104	ROYAL ANTHROPOLOGICAL INSTITUTE
105	LONDON
106	Vol. 100, Part 1, 1970
107	No. 1, 1970
108	CONTENTS
109	1. THE JOURNAL OF THE
110	ROYAL ANTHROPOLOGICAL INSTITUTE
111	LONDON
112	Vol. 100, Part 1, 1970
113	No. 1, 1970
114	CONTENTS
115	1. THE JOURNAL OF THE
116	ROYAL ANTHROPOLOGICAL INSTITUTE
117	LONDON
118	Vol. 100, Part 1, 1970
119	No. 1, 1970
120	CONTENTS
121	1. THE JOURNAL OF THE
122	ROYAL ANTHROPOLOGICAL INSTITUTE
123	LONDON
124	Vol. 100, Part 1, 1970
125	No. 1, 1970
126	CONTENTS
127	1. THE JOURNAL OF THE
128	ROYAL ANTHROPOLOGICAL INSTITUTE
129	LONDON
130	Vol. 100, Part 1, 1970
131	No. 1, 1970
132	CONTENTS
133	1. THE JOURNAL OF THE
134	ROYAL ANTHROPOLOGICAL INSTITUTE
135	LONDON
136	Vol. 100, Part 1, 1970
137	No. 1, 1970
138	CONTENTS
139	1. THE JOURNAL OF THE
140	ROYAL ANTHROPOLOGICAL INSTITUTE
141	LONDON
142	Vol. 100, Part 1, 1970
143	No. 1, 1970
144	CONTENTS
145	1. THE JOURNAL OF THE
146	ROYAL ANTHROPOLOGICAL INSTITUTE
147	LONDON
148	Vol. 100, Part 1, 1970
149	No. 1, 1970
150	CONTENTS
151	1. THE JOURNAL OF THE
152	ROYAL ANTHROPOLOGICAL INSTITUTE
153	LONDON
154	Vol. 100, Part 1, 1970
155	No. 1, 1970
156	CONTENTS
157	1. THE JOURNAL OF THE
158	ROYAL ANTHROPOLOGICAL INSTITUTE
159	LONDON
160	Vol. 100, Part 1, 1970
161	No. 1, 1970
162	CONTENTS
163	1. THE JOURNAL OF THE
164	ROYAL ANTHROPOLOGICAL INSTITUTE
165	LONDON
166	Vol. 100, Part 1, 1970
167	No. 1, 1970
168	CONTENTS
169	1. THE JOURNAL OF THE
170	ROYAL ANTHROPOLOGICAL INSTITUTE
171	LONDON
172	Vol. 100, Part 1, 1970
173	No. 1, 1970
174	CONTENTS
175	1. THE JOURNAL OF THE
176	ROYAL ANTHROPOLOGICAL INSTITUTE
177	LONDON
178	Vol. 100, Part 1, 1970
179	No. 1, 1970
180	CONTENTS
181	1. THE JOURNAL OF THE
182	ROYAL ANTHROPOLOGICAL INSTITUTE
183	LONDON
184	Vol. 100, Part 1, 1970
185	No. 1, 1970
186	CONTENTS
187	1. THE JOURNAL OF THE
188	ROYAL ANTHROPOLOGICAL INSTITUTE
189	LONDON
190	Vol. 100, Part 1, 1970
191	No. 1, 1970
192	CONTENTS
193	1. THE JOURNAL OF THE
194	ROYAL ANTHROPOLOGICAL INSTITUTE
195	LONDON
196	Vol. 100, Part 1, 1970
197	No. 1, 1970
198	CONTENTS
199	1. THE JOURNAL OF THE
200	ROYAL ANTHROPOLOGICAL INSTITUTE
201	LONDON
202	Vol. 100, Part 1, 1970
203	No. 1, 1970
204	CONTENTS
205	1. THE JOURNAL OF THE
206	ROYAL ANTHROPOLOGICAL INSTITUTE
207	LONDON
208	Vol. 100, Part 1, 1970
209	No. 1, 1970
210	CONTENTS
211	1. THE JOURNAL OF THE
212	ROYAL ANTHROPOLOGICAL INSTITUTE
213	LONDON
214	Vol. 100, Part 1, 1970
215	No. 1, 1970
216	CONTENTS
217	1. THE JOURNAL OF THE
218	ROYAL ANTHROPOLOGICAL INSTITUTE
219	LONDON
220	Vol. 100, Part 1, 1970
221	No. 1, 1970
222	CONTENTS
223	1. THE JOURNAL OF THE
224	ROYAL ANTHROPOLOGICAL INSTITUTE
225	LONDON
226	Vol. 100, Part 1, 1970
227	No. 1, 1970
228	CONTENTS
229	1. THE JOURNAL OF THE
230	ROYAL ANTHROPOLOGICAL INSTITUTE
231	LONDON
232	Vol. 100, Part 1, 1970
233	No. 1, 1970
234	CONTENTS
235	1. THE JOURNAL OF THE
236	ROYAL ANTHROPOLOGICAL INSTITUTE
237	LONDON
238	Vol. 100, Part 1, 1970
239	No. 1, 1970
240	CONTENTS
241	1. THE JOURNAL OF THE
242	ROYAL ANTHROPOLOGICAL INSTITUTE
243	LONDON
244	Vol. 100, Part 1, 1970
245	No. 1, 1970
246	CONTENTS
247	1. THE JOURNAL OF THE
248	ROYAL ANTHROPOLOGICAL INSTITUTE
249	LONDON
250	Vol. 100, Part 1, 1970
251	No. 1, 1970
252	CONTENTS
253	1. THE JOURNAL OF THE
254	ROYAL ANTHROPOLOGICAL INSTITUTE
255	LONDON
256	Vol. 100, Part 1, 1970
257	No. 1, 1970
258	CONTENTS
259	1. THE JOURNAL OF THE
260	ROYAL ANTHROPOLOGICAL INSTITUTE
261	LONDON
262	Vol. 100, Part 1, 1970
263	No. 1, 1970
264	CONTENTS
265	1. THE JOURNAL OF THE
266	ROYAL ANTHROPOLOGICAL INSTITUTE
267	LONDON
268	Vol. 100, Part 1, 1970
269	No. 1, 1970
270	CONTENTS
271	1. THE JOURNAL OF THE
272	ROYAL ANTHROPOLOGICAL INSTITUTE
273	LONDON
274	Vol. 100, Part 1, 1970
275	No. 1, 1970
276	CONTENTS
277	1. THE JOURNAL OF THE
278	ROYAL ANTHROPOLOGICAL INSTITUTE
279	LONDON
280	Vol. 100, Part 1, 1970
281	No. 1, 1970
282	CONTENTS
283	1. THE JOURNAL OF THE
284	ROYAL ANTHROPOLOGICAL INSTITUTE
285	LONDON
286	Vol. 100, Part 1, 1970
287	No. 1, 1970
288	CONTENTS
289	1. THE JOURNAL OF THE
290	ROYAL ANTHROPOLOGICAL INSTITUTE
291	LONDON
292	Vol. 100, Part 1, 1970
293	No. 1, 1970
294	CONTENTS
295	1. THE JOURNAL OF THE
296	ROYAL ANTHROPOLOGICAL INSTITUTE
297	LONDON
298	Vol. 100, Part 1, 1970
299	No. 1, 1970
300	CONTENTS