

Blood Indices and Levels of Erythropoietin in Cystic Kidney Disease

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Background: The mature kidneys are the primary organs that secrete erythropoietin (EPO), a sialo-glycoprotein hormone that is released in response to tissue hypoxia and a decrease in red cell mass. It causes the blood marrow to produce more erythrocytes.

Objectives: To estimate haemoglobin and EPO in blood and cystic fluid in patients with renal cysts.


Methodology: The 60 participants in this case-control study were 30 individuals (30–60 years old) who visited the urology department of Alhawari General Hospital in Benghazi, Libya, in 2020 and had renal cysts. Furthermore, thirty healthy individuals, matched for age and gender, were selected as controls (ages 29–58). We measured blood urea, creatinine, and haemoglobin. ELISA was used to estimate EPO in serum and cystic fluid.

Results: Patients with renal cysts had mean serum EPO and urea values of 29.7 ± 7 m U/ml and 7.2 ± 1.3 m mole/l, respectively. These values were substantially higher than those of the control group, which had mean values of 6.2 ± 4.3 m U/ml and 4.4 ± 1.1 m mole/l, respectively, $P < 0.05$. Patients diagnosed with renal cysts had significantly lower haemoglobin levels (11.2 ± 0.6 and 13.2 ± 1.3 gm/dl, respectively) than the control group ($P < 0.05$). The amount of EPO in the cystic fluid was 15 times more than that in serum.


Conclusion: According to this study, erythropoietin does not penetrate blood from cystic fluid in individuals with renal cysts, and more research is needed to determine the amount of erythropoietin in cystic fluid.

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
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
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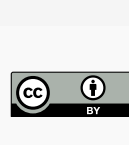
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