Abstract
Creatinine, an easily measured byproduct of muscle metabolism, is excreted unchanged by the kidneys. So it is an important indicator of renal health. A rise in blood creatinine level is observed only with marked damage to functioning nephrons. A decrease in muscle mass will cause a lower reading of creatinine, as well as pregnancy. Albumin is a main protein of human plasma. Low albumin may be caused by liver diseases nephrotic syndrome etc. High albumin is mostly caused by dehydration. A portable ACR reader is designed which is a POCT (Point Of Care Testing) device and very easy to use. It is essential that the test be carried out with a small volume of urine. POCT for creatinine and albumin concentrations offers advantage of providing a result within minutes outside the hospital which potentially enables faster diagnosis of conditions threatening kidney function. The instrument developed is a great boon for small pathological labs and clinics.

References

- The albumins (formed from Latin: albumen (egg) white; dried egg white) are a family of globular proteins https://en.wikipedia.org/wiki/Albumin
- Albumin is a protein manufactured by the liver. www.webnat.com/articles/Albumin.asp
- Arduino is an open-source prototyping platform based on easy-to-use hardware and
software http://arduino.cc/de/Guide/Introduction#.UwdjWfmSw1M
- LCD (Liquid Crystal Display) screen is an electronic display module and find a wide range of applications http://www.engineersgarage.com/electronic-components/16x2-lcd-module-datasheet
- The LiquidCrystal library allows you to control LCD displays that are compatible with the Hitachi HD44780 driver http://arduino.cc/en/Tutorial/LiquidCrystal#.Uwdoa_mSw1N
- A potentiometric sensor is a type of chemical sensor that may be used to determine the analytical concentration of some components of the analyte gas or solution http://en.wikipedia.org/wiki/Potentiometric_sensor
- Amperometric biosensors function by the production of a current when a potential is applied between two electrodeshttp://www1.lsbu.ac.uk/water/enztech/amperometric.html

Index Terms

Computer Science Pattern Recognition

Keywords

Electronic Reader Medical Device Creatinine And Albumin.