

2015

Evaluation Report of the Pneumatic Tube Transport System (PEVCO) connecting Dialysis Hospital to Mubarak Hospital



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Introduction:

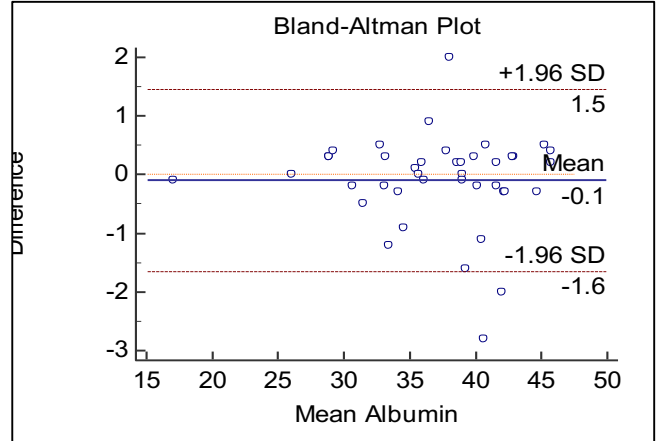
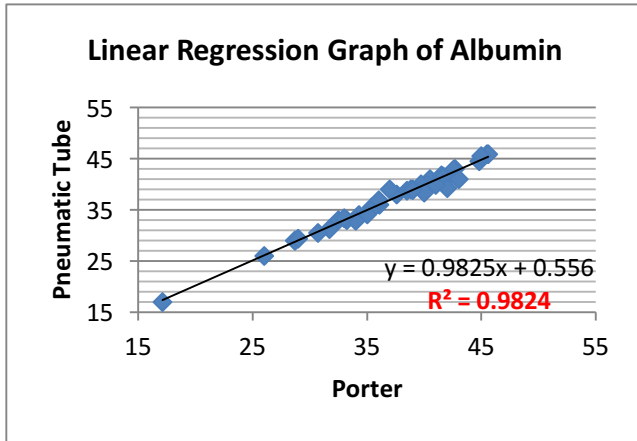
Delivering prompt, customized care is critical to improving the patient experience and ultimately enabling better patient outcomes. Pneumatic tube systems help hospitals meet patient needs by efficiently transporting drugs, documents and specimens to and from nurses' stations, labs, inpatient and outpatient pharmacies, blood banks and the ED.

The dialysis Hospital has two main pneumatic tube systems. One system is intended to transport patients' samples from the dialysis wards to the Clinical Biochemistry Laboratory in the same building. The other pneumatic tube system is used to transport samples from dialysis hospital to Clinical Biochemistry Laboratory in Mubarak Hospital.

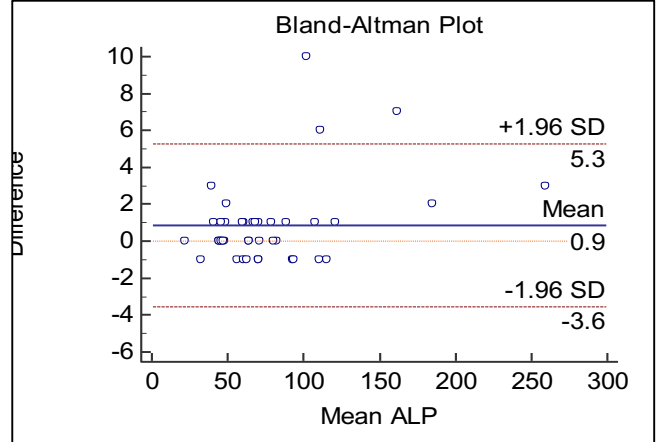
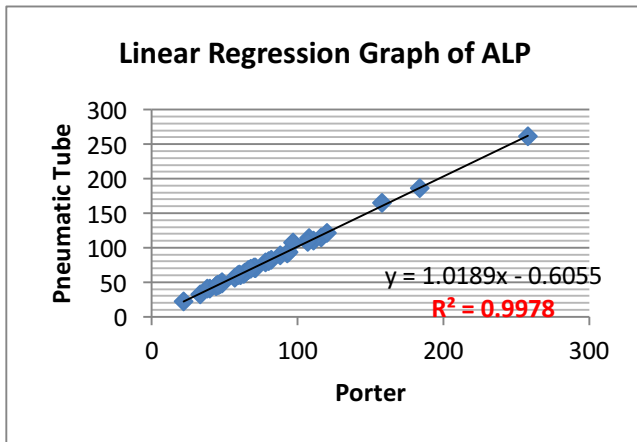
Comparison Study:

The pneumatic tube system linking the Dialysis hospital to Mubarak Hospital was evaluated by analyzing 41 patient samples. Each sample was divided into two aliquots; one aliquot was sent from the Phlebotomy room in Mubarak Hospital to the Clinical Biochemistry Laboratory in Dialysis Hospital by the pneumatic tube system, the other aliquot was sent by porter. Both aliquots were analyzed using the same Beckman UniCel DxC 600 Synchron® Clinical System. Comparison results were subjected to linear regression analysis using Microsoft Excel 2010 and Bland-Altman difference plots using the MedCal software (www.medcal.be).

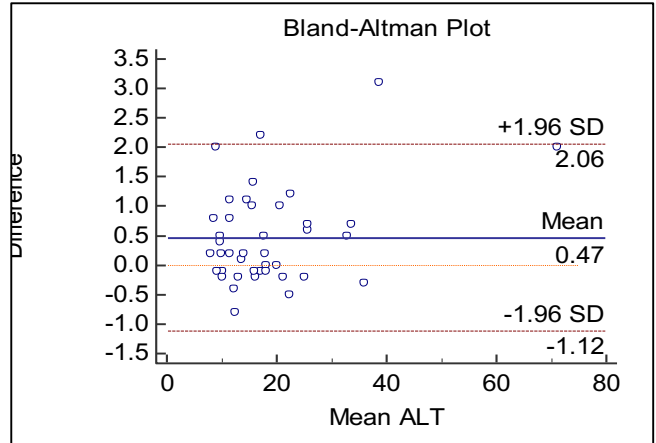
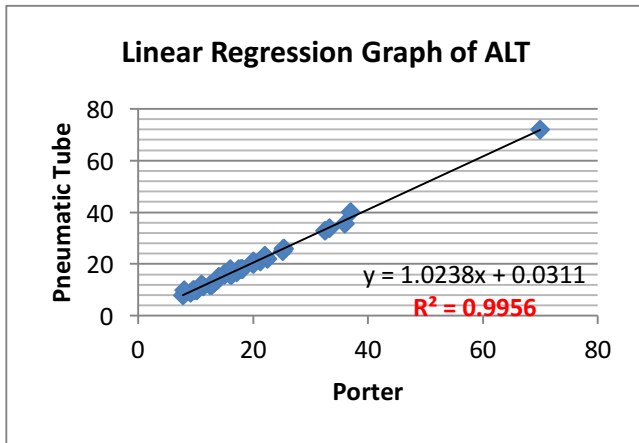
Albumin



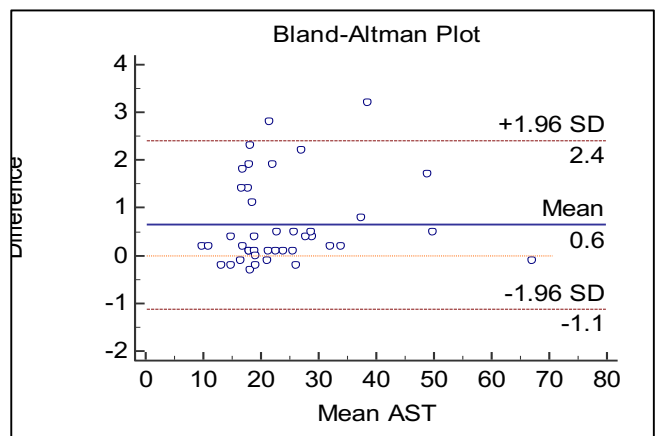
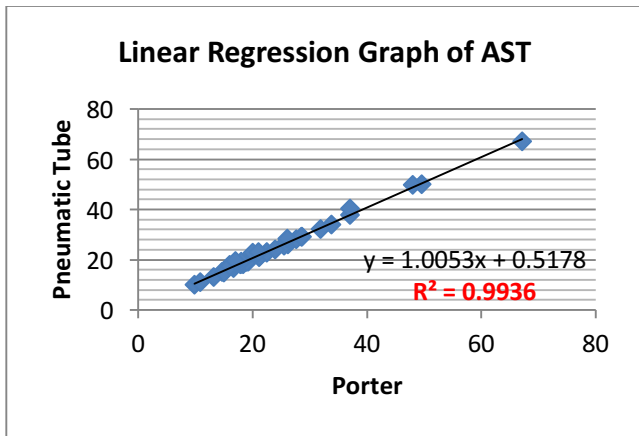
Alkaline Phosphatase



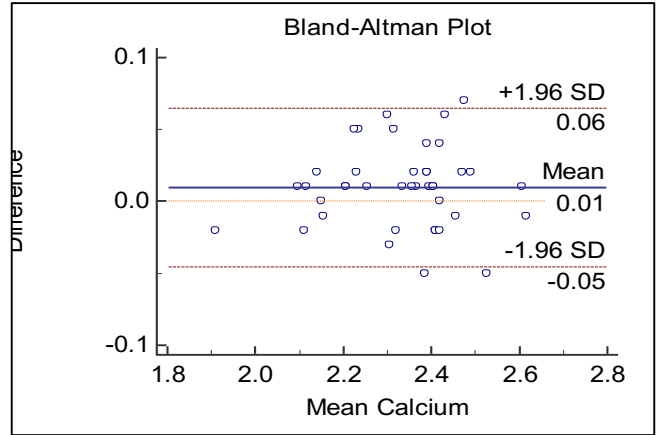
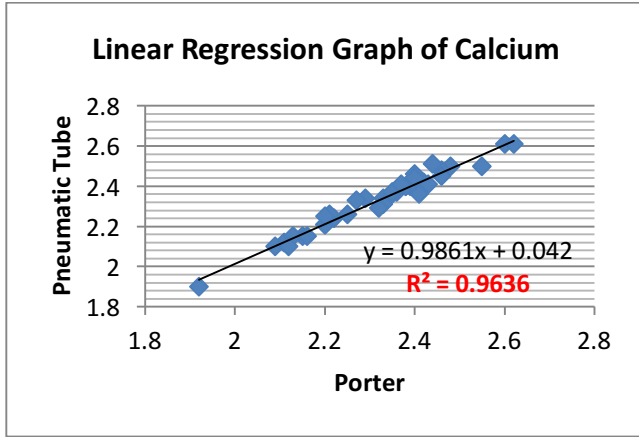
Alanine Aminotransferase



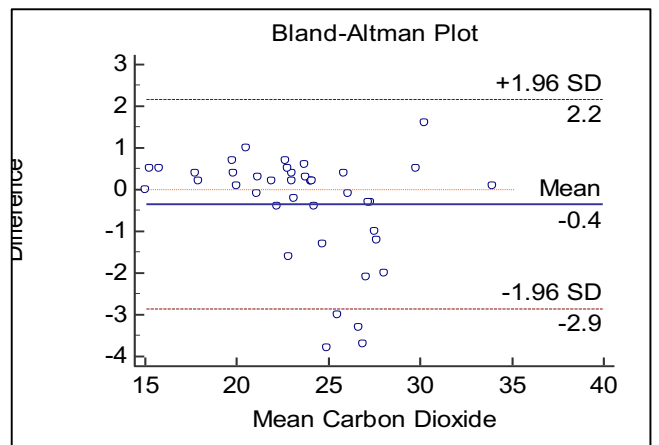
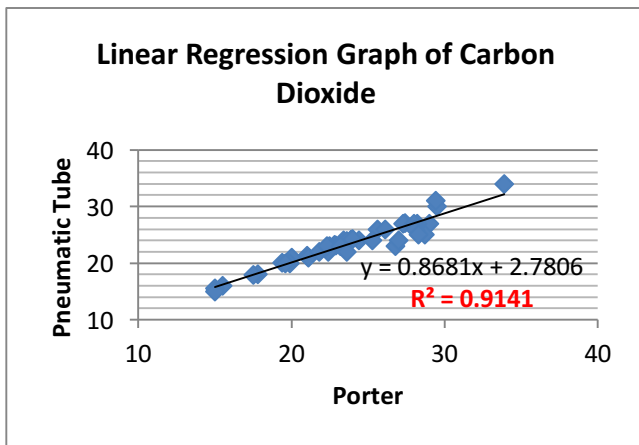
Aspartate Aminotransferase



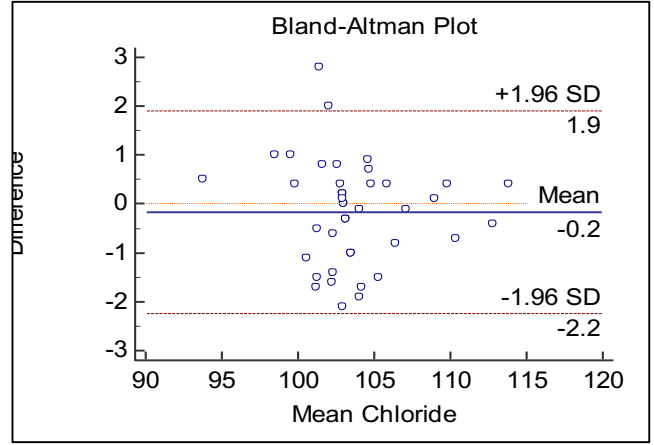
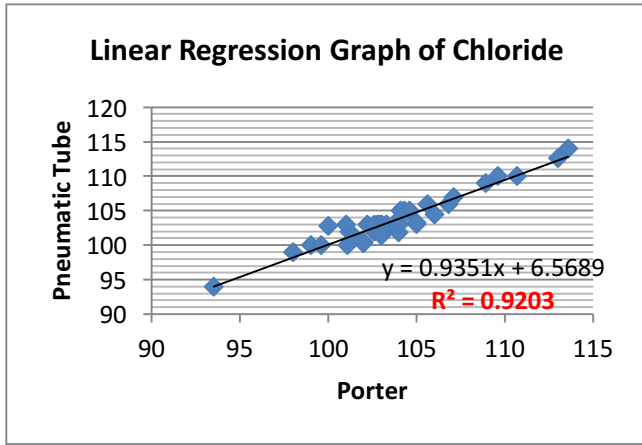
Calcium



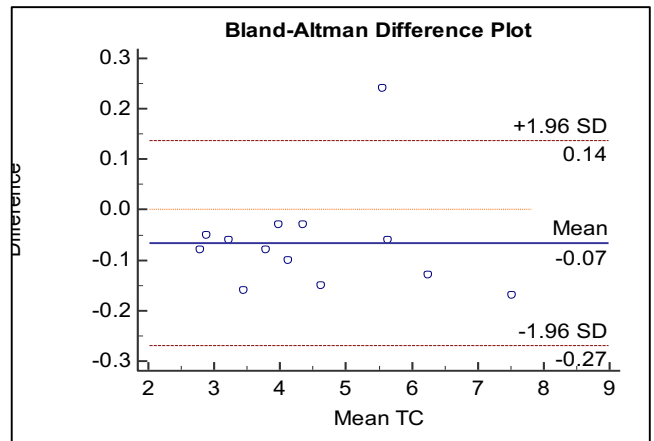
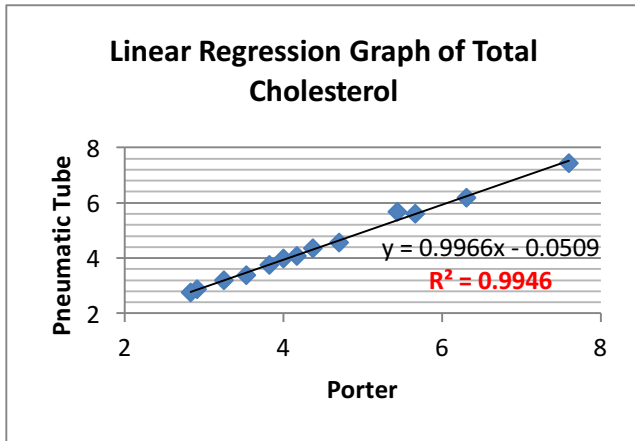
Carbon Dioxide



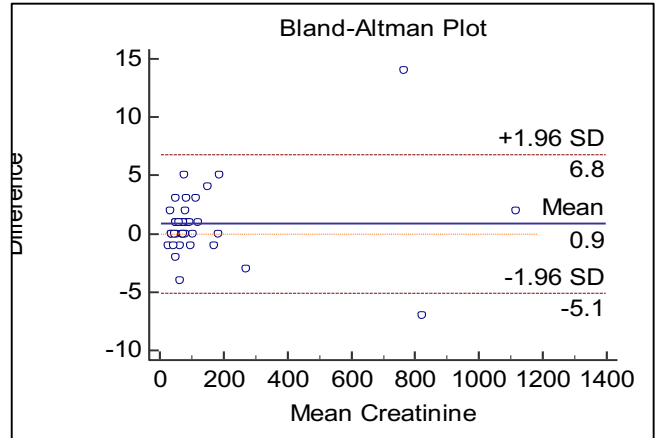
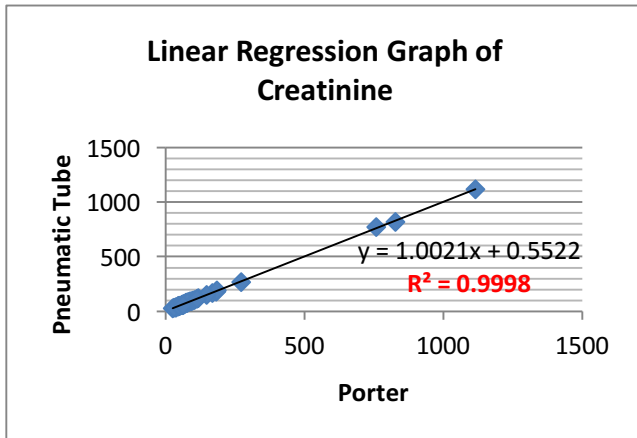
Chloride



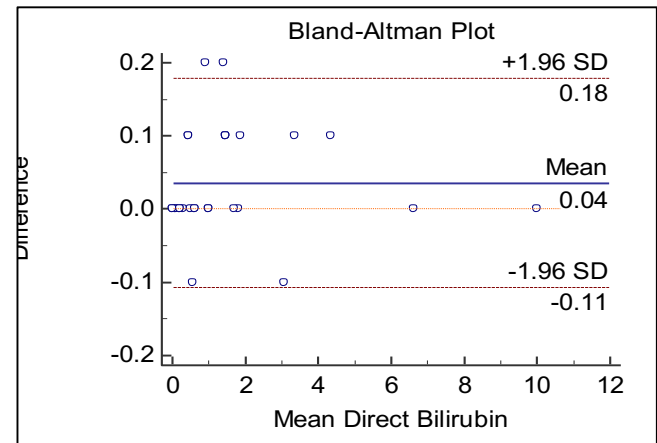
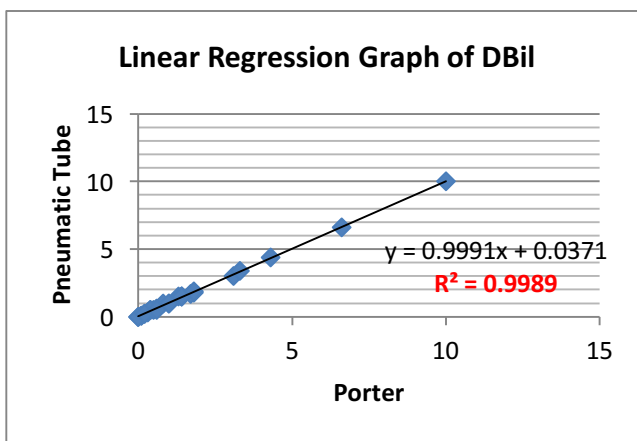
Cholesterol



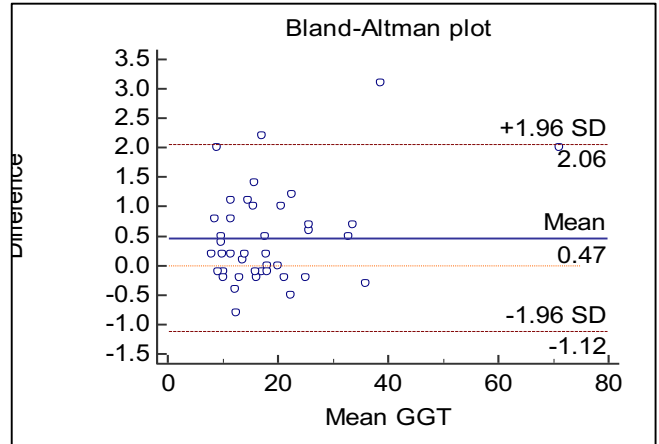
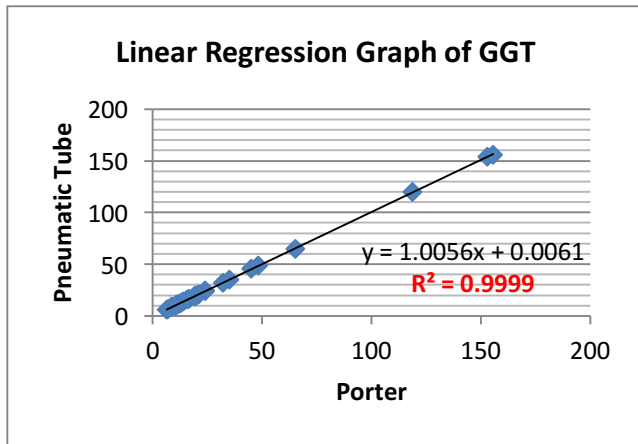
Creatinine



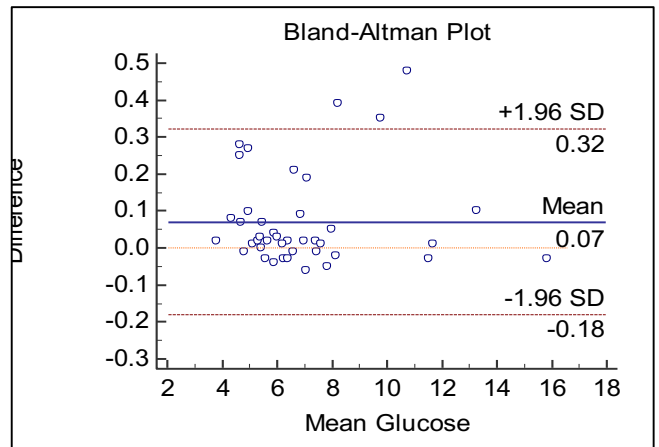
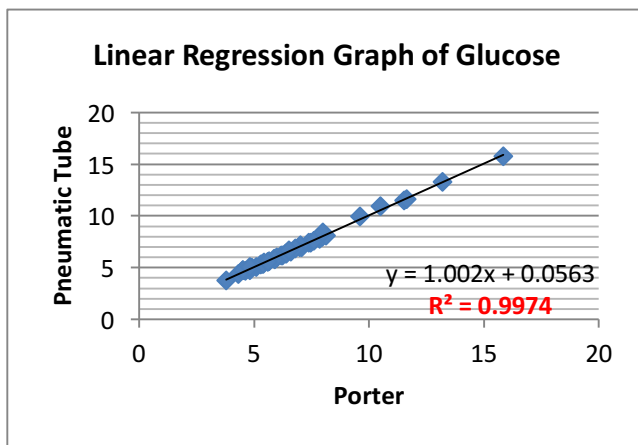
Direct Bilirubin



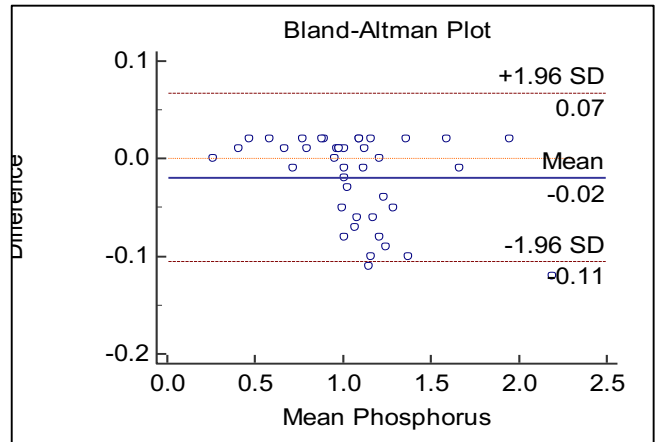
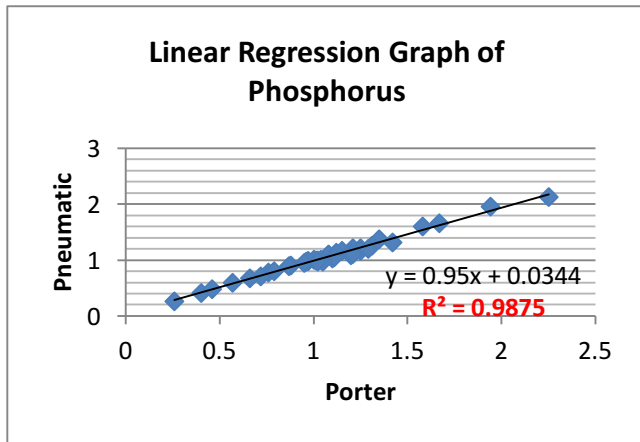
Gamma Glutamyl Transferase



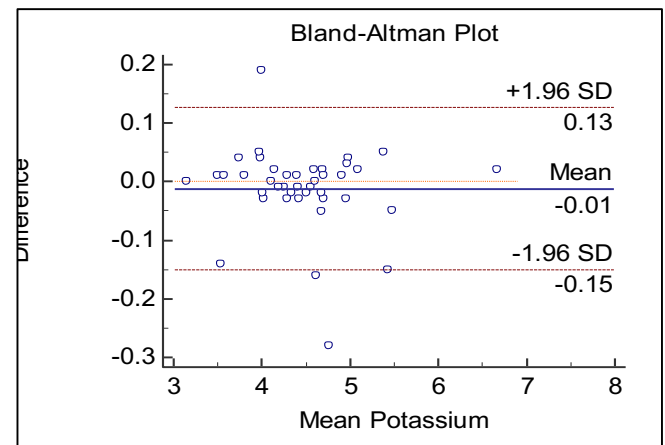
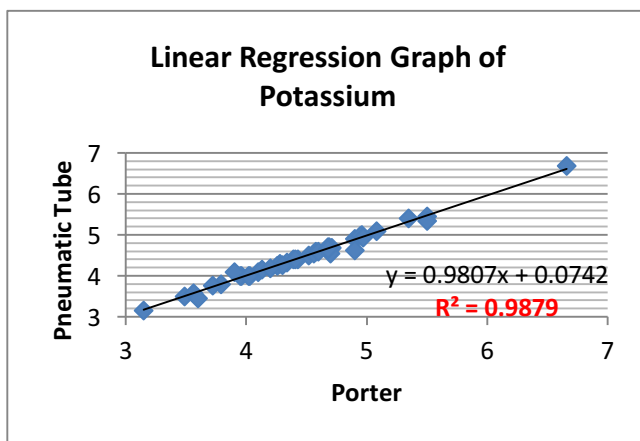
Glucose



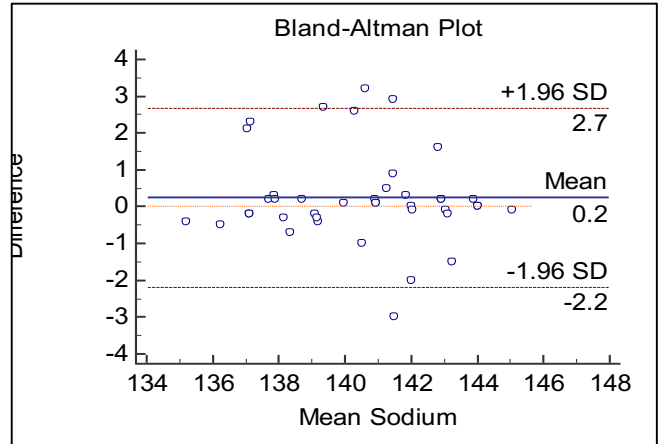
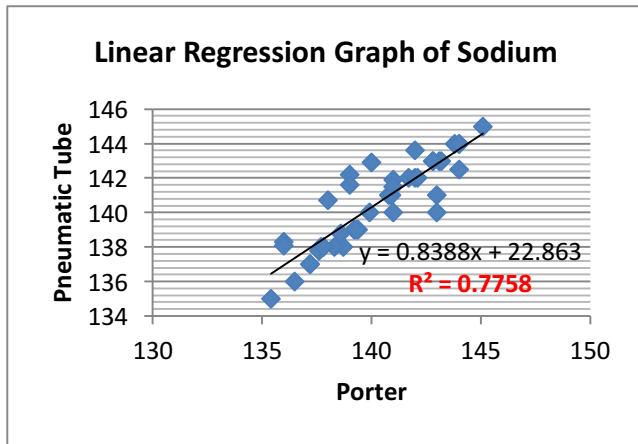
Phosphorus



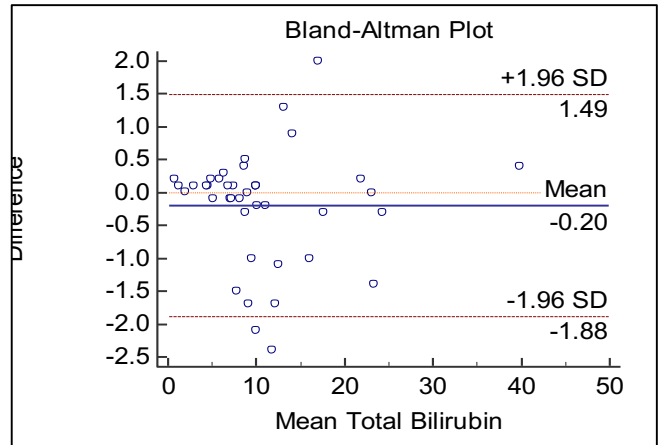
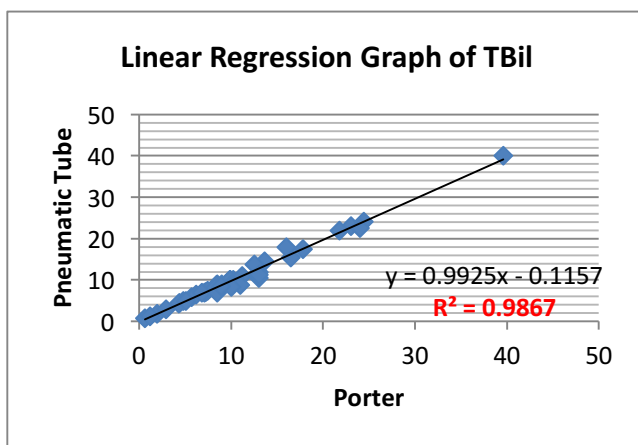
Potassium



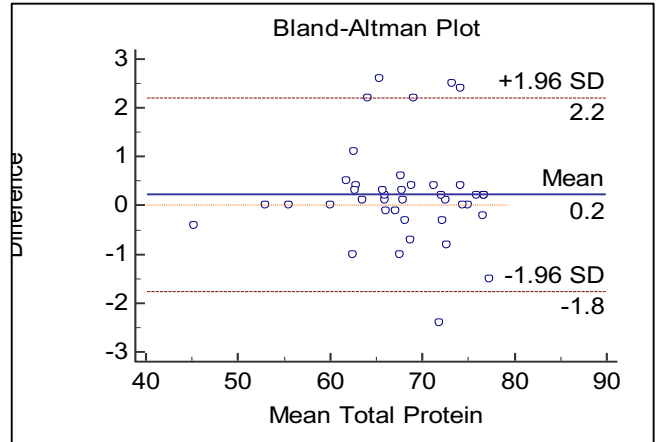
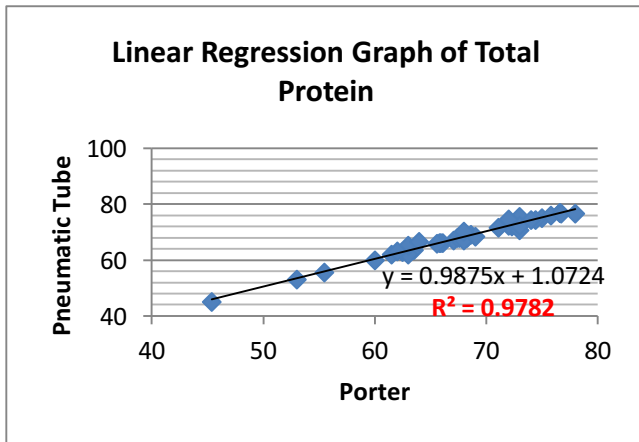
Sodium



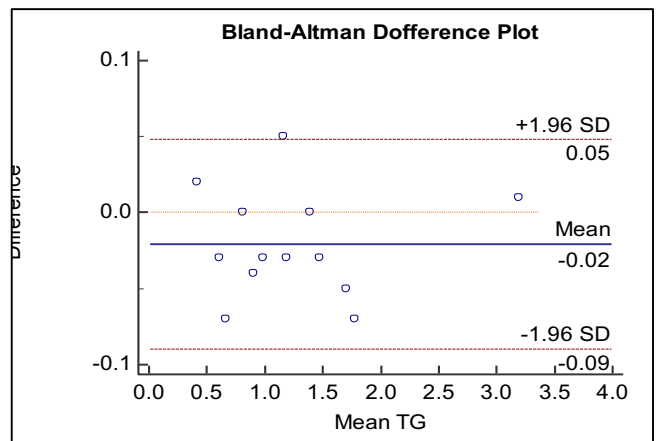
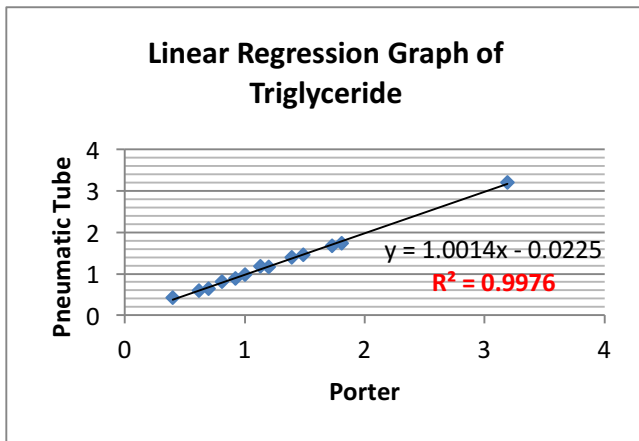
Total Bilirubin



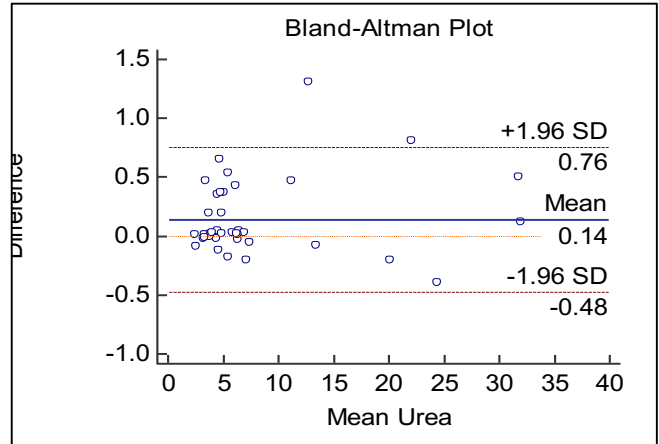
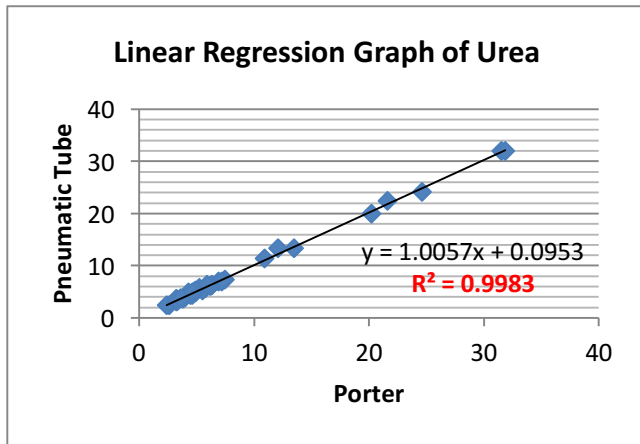
Total Protein



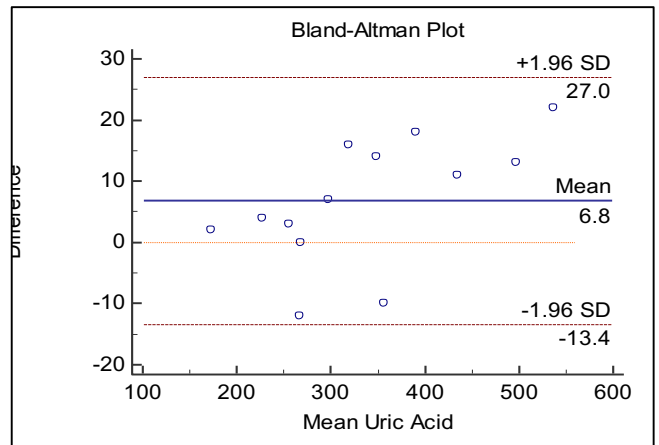
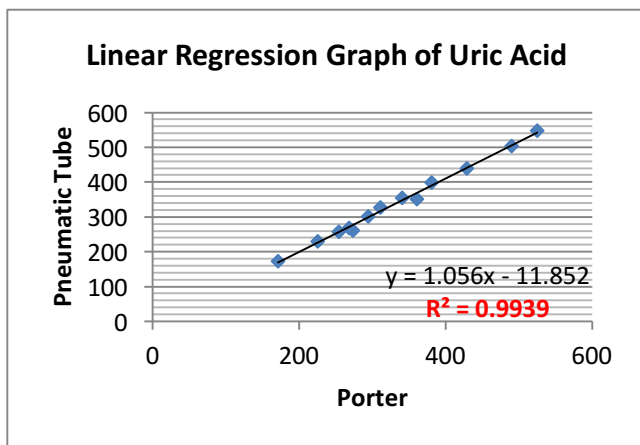
Triglyceride



Urea



Uric Acid



Conclusion

Comparison of pneumatic tube transport system with porter transport indicated good analytical agreement across the studied clinical biochemistry tests. The Bland-Atman difference plots showed no significant bias between the two methods. Therefore, the Pneumatic Tube Transport System connecting the Dialysis Hospital to Mubarak Hospital is fit for use in the transport of patients' samples between the two Hospitals.

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Acknowledgement

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