

Where Should the Patients go for Biochemical Investigations?

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Biochemical investigations are essential for the screening, diagnosis and monitoring of many disease processes and to predict their prognosis. To tell the truth biochemical investigations are required in the management of most of the disease processes if not all. In addition to the core biochemical investigations that are most commonly used, there are specialized investigations for the measurement of hormones, cancer markers, vitamins, trace metals, drugs, specific proteins, and for DNA analyses. Moreover, there are emergency biochemical investigations including serum electrolytes and arterial blood gas analysis. Biochemistry and Molecular Biology are rapidly developing fields of biomedical sciences. New investigations, new instruments and new methods are developing virtually every day. Use of micro-processor based digital technology and advanced automated instrument, now-a-days, is providing one-click or one-touch simplicity in measuring most of the biochemical parameters. Despite this simplicity and automation the quality control of the investigations is not ensured automatically and the interpretation of the test results has become more complicated. In fact, the man/woman behind the machine, with all his/her knowledge, training and experience, has sometimes become more important than any time before in this modern era of clinical biochemistry.

Unfortunately, because of this simplicity and automation a sort of abuse of the instruments for biochemical investigations has become a matter of great concern in Bangladesh. Diagnostic centers, clinics and clinical departments are setting up their own laboratories and are using automated instrument for biochemical

investigations without any quality control or any supervision of a specialist clinical biochemist. This is equally true for small and large centers both in Dhaka and peripheral small towns. But the most serious concern is that the same thing is also happening at the Bangabandhu Sheikh Mujib Medical University (BSMMU), the only university at the public sector committed to provide high quality medical service, education and research. It is a real puzzle for the patients who come at the BSMMU for biochemical investigations as several of the diagnostic laboratories at BSMMU are doing the same biochemical investigations. The question therefore comes - where should the patients go for biochemical investigations. The patients can do some of the same biochemical investigations in biochemistry, microbiology, clinical pathology, cardiology, or nephrology lab. Who will tell them where to go for their investigations and what will be the best for them?

A number of serious consequences arise when a biochemical investigation is done outside a clinical biochemistry lab without the supervision of a trained clinical biochemist. Because pre-analytical factors like preparation of patients, sample collection procedure, processing and preservation of samples largely affect the result of a biochemical test. No automated instrument by itself, can take care of all these pre-analytical factors. Moreover, quality control and interpretation of biochemical test results are quite complicated. Therefore, without the supervision of a trained clinical biochemist the biochemical test results are more likely to be wrong, and if so, that will definitely be a cause of suffering, loss of money and even death of the patient.

Different disciplines of medical science like anatomy, physiology, biochemistry, microbiology, virology, pathology and hematology have their established roles in medical education, health care and research. When a specialized activity of one discipline is done by another discipline it is impossible to achieve the quality and perfection. At the same time the importance and utility of the concerned department is more likely to be neglected by the prospective students, trainees and fellows. Its effect on the medical education cannot be good in future.

Taken together, it is therefore very important to ensure that the diagnostic activities of a particular department will be done in their own laboratory under the supervision of a respective specialist. This must be started at once from the BSMMU so that other health care institutes of the country can follow them, and thereby the BSMMU can keep its leadership in providing high quality laboratory services and patient care as well as in directing medical education in the right direction.