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Editorial

Biochemistry in Contemporary Medicine: Connecting Medicine and Molecules

Rupesh Kumar Shreewastav

Department of Biochemistry, Nobel Medical College Teaching Hospital, Biratnagar, Nepal

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Abstract

Biochemistry is not only a subject taught in pre-clinical science in medical stream curriculum but also an essential tool to rule out the causes of diseases, formulating diagnostic approaches and establishing curative directions. Biochemistry has been used in the field of medicine by the precision of diagnosis and patient healthcare system is strongly benefitted by the integration of molecular approach and medical relevance.

Keywords: *Biochemistry, Diagnosis, Medicine*


The beauty of Biochemistry

The subject biochemistry is also recognized as the molecular language of life. Biochemistry always remains at the core of innovative concern which is occurring in the practice of medicine. The scope of biochemistry is not confined within clinical laboratory. These days, it has been utilized as a valuable means of tracing out interplay taking place between various biomolecules, genes, proteins, enzymes, catabolic pathways which decide well being and diseases. The present diagnostic tool of biochemistry is required for the use of biomarkers for the diagnosis of diseases ranging from cancer to cardiovascular disease as well as for determining the molecular basis of congenital diseases [1]. Technologies such as next-generation sequencing, proteomics, and high-throughput screening are revolutionizing the way we detect diseases at an earlier, easier-to-manage stage [2].

In addition to that, the research being conducted in the field of biochemistry is mostly responsible

for the expansion of modified medicine. Biochemistry helps clinician to plan for more effective and less deleterious cure policy by providing the knowledge about the effect of gene variants on drug metabolism and disease propensity [3]. Systems biology and bioinformatics, which offer a comprehensive view of biological networks rather than isolated pathways, have further improved biochemistry [4]. The traditional way of teaching and learning activities to understand the biochemical pathways has now been replaced by more clinically oriented case based teaching approaches. Now-a-days, case oriented tutorials, problem based learning and collaborative education is more encouraged to help out clinicians to realize utility of biochemistry in clinical practice [5].

In spite of having these biochemical achievements, there are many hurdles too. There is great requirement of constant teamwork between biochemical scientists and clinicians to seal the gap between laboratory results and bedside

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application. Moreover, to ensure that biochemical developments lead to affordable and easily available medical care, especially in those setup which has got inadequate resources, it becomes essential to keep funding for research and technology.

Conclusion

The manner biochemistry is presently viewed in the field of medicine shows a standard shift, changing from a descriptive to a prescriptive and predictive science. The importance of biochemistry will be realized more when the clinical practice will depend more on molecular medicine and henceforth providing a new anticipation for comparatively improved disease understanding, diagnosis and treatment than the traditional approach.

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