Gastroenterology as a medical specialty has advanced considerably in India during the last decade. This is evident by the simple fact that services related to Gastroenterology, particularly endoscopic interventions, have become accessible at most urban centers in this country. The sale of endoscopic instruments and accessories has increased by 50% during the last decade. Annually, four or five courses on therapeutic endoscopy are being organized throughout the country, and are attended by large numbers of physicians. Many gastroenterologists are occupied round the clock by services related to endoscopy. It is common knowledge that, during national and international conferences, attendance in endoscopy sessions is large.

Simultaneously, knowledge on liver disease is expanding rapidly. Understanding immunology, virology and cell biology has not only clarified the pathogenesis and natural course of viral hepatitis, but also devised effective therapeutic options for these diseases. Internationally, there are six indexed journals dedicated to hepatology, indicating the amount of research conducted in this area. The number of annual scientific meets on liver diseases in India and abroad is increasing rapidly.

At present, there are about six centers in India that have started liver transplantation. Peri-transplant evaluation and management needs specific knowledge, infrastructure and laboratory support.

Structured program

The evolution of modern gastroenterology with parallel advances in biomedical research has been remarkable, with rapid change in concept, management and interventions. These aspects demand that we introspect on a structured training program in gastroenterology in India. Unless recent advances are included in training programs, we will be imparting less than desirable training to gastroenterology fellows in our country.

The engine behind such rapid advances in the field of gastroenterology are physician-scientists who are well versed with biology as well as medicine and who understood disease processes; their innovative imagination became the future. Therefore, a major effort while training our gastroenterologists should be to turn them into physician-scientists. I know this is a debatable concept, but I think that with changing times and with changes in management approaches, we must add advances to our training programs to keep pace with state-of-the-art management of diseases for our people.

In the past, laboratory research was confined to physiological research, in which a scientist worked to understand organ systems and their interrelationships. Subsequently many of the techniques designed for use in the laboratory were used in clinical situations for patient care, e.g., blood flow measurements, immunohistochemistry, and various biochemical measures. During the last two decades, the focus of basic research has moved from physiologic studies to understanding of complex intracellular events in both health and disease (genetics, cell and molecular biology).

Before the advent of research in this area, a fellow in gastroenterology had adequate interaction with physiologic research and its applied aspects. However, now, it is painfully evident that there is a great dichotomy in training of gastroenterology fellows in basic versus applied research, particularly in India. The techniques used in understanding cellular and molecular events today are sophisticated and complex, which need more focused understanding. Myriads of such techniques have been developed, such as northern, southern and western blotting, polymerase chain reaction, DNA sequencing, cloning, DNA fingerprinting, fluorescence activated cell sorting, micro-array, proteomics, etc. These techniques are complex and use technique-specific languages that are rarely understood by older gastroenterologists like me, who were trained two decades ago.

It is common knowledge that during annual conferences in India, lectures or symposium on basic sciences related to gastroenterology have the lowest attendance. To match international progress in gastroenterology, this aversion to learning events at the cellular level needs urgent change, and our national society must take action to alter the
structure of our scientific meets to include more discussion at the cellular level so as to orient ourselves, if not with the technique, at least with the vocabulary of modern science. This should help develop a gastroenterology-basic science team approach, at least in training if not in research.

Integrated training

The next provocative aspect to me is the challenge we now face in training our future gastroenterologists. In India today, individuals of my age are in charge of training gastroenterology fellows. The issue is, how do we integrate training in cellular and molecular biology and clinical gastroenterology into a single discipline, which finally will produce physician-scientists, who are a necessity if we want to solve the problems that are unique to our country?

Gastroenterology is an organ system-oriented discipline, and gastroenterologists are used to dealing with diverse organ systems such as esophagus, stomach, small intestine, large intestine, liver, gall bladder, and pancreas. The immunological and endocrine functions of the gut and liver make our discipline arguably the most integrated and complicated among all physiologic and medical disciplines.

In such a situation, what do we do to amalgamate basic and applied gastroenterology in our training program? This needs brainstorming and rapid action for changes at our training centers. I suggest three important steps, which may not be difficult to initiate, in order to achieve the ambitious goal of making at least some of our gastroenterologists into physician-scientists. First, each training center in this country should include basic scientists in their team at least to start discussion on various molecular techniques; this will also function as a refresher course for the clinician-gastroenterologist in charge of training.

Second, bedside and clinical discussion should always include the pathophysiologic basis of each clinical problem. Third, each training center must have a research laboratory (either in collaboration or stand-alone) where fellows must spend time to get exposed to various techniques. During the final evaluation of our fellows, emphasis on the pathophysiologic basis of disease processes should be included. In addition, like in the West, we must have in place an accreditation system every 5 years for established gastroenterologists, to augment their knowledge in recent advances.

Inviting suggestions

I know that there will be differences of opinion in various areas that I have discussed. However, it is better to raise these issues and start debating them rather than remaining silent. I suggest that comments and criticisms on my suggestion be sent to the Journal, in order to create a comprehensive training program for gastroenterology fellows in India.

I was enthused by an article published in Gastroenterology recently.1 This article aimed to improve training of gastroenterology fellows in USA. I have used some of the suggestions and inputs from the article that appealed to me because I felt they are as appropriate to us as to the US.

Reference