My Tryst with Experience-based Medicine

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My experience as a physician (55 years) can be divided into two phases: (1) first phase as a full time medical teacher (lecturer, assistant professor and professor of Medicine) and a physician at different medical colleges of Maharashtra spanning 22 years and (2) second phase as an honorary physician mostly at Jaslok Hospital and Research Centre, Mumbai spanning 33 years where now I am the Director of Medicine Department.

During first phase, I managed my patients mostly by meticulous history and clinical examination. We had very little help of investigations due to nonavailability of modern machines. We had facility of limited basic biochemical and hematological tests, electrocardiogram, plain X-rays of chest, joints and bones, barium meal, barium enema, intravenous pyelograms, etc.

During second phase, when I managed patients at Jaslok Hospital and few other private hospitals, I had a facility of all modern machines where one could do ultrasonography, color Doppler studies, computed tomography (CT), magnetic resonance imaging (MRI), nuclear medicine tests, positron emission tomography-computed tomography (PET-CT), coronary angiography, digital angiography, detailed pulmonary function test, electroencephalography (EEG), electromyography (EMG), etc. We have modern biochemical laboratories with auto-analyzers, microbiological laboratory, molecular biology, immunology and genetic laboratories, etc. Well, during this phase also, I depend a lot on my clinical experience to work-up my cases and utilize the facility of other investigative tools when absolutely necessary to confirm the clinical diagnosis.

Unfortunately, the recent trend amongst our younger physicians, particularly in western countries and urban areas, is to depend more on investigations and emphasis on history and clinical examination is becoming less and less. There is more emphasis on evidence-based medicine (EBM) rather than clinical expertise and patient values. They have blind faith in technology as they first order investigations and treat the reports rather than the patient.

Clinical skills are acquired continuously during the lifetime practice of clinical medicine. Learning bedside clinical medicine requires knowledge and experience. An experienced physician forms an impression about a patient from the time he/she enters his consultation room. The way the patient walks in and the way the patient interacts during history taking provides a wealth of information. The physician has to be focused on obtaining maximum possible information during history taking to arrive at a proper diagnosis. The doctor has to work like a detective to catch the cause of the patient’s illness. The physician must learn to be a good listener, be friendly and know when to speak and what to say. At the end ask for relevant absence of symptoms. History of present illness should include both positive and negative symptoms and should be compiled in chronological order. One must include the doctors consulted, investigations carried out and treatment taken for the present illness and with what results.

Past, family, personal and social history also give clue to the present illness. Let the patient relate all past illnesses and operations. Family history of obesity, diabetes mellitus, hypertension, premature coronary artery disease, stroke, bronchial asthma, allergies, migraine, cancer, mental disorders, etc. should be obtained. Inquire about the cause of death and the age of the first degree relatives to know history of premature death. Inquire about habits (tobacco chewing, smoking, alcohol and drugs), sleep, lifestyle, exercise, yoga, married and social life, children, work place, tensions, worries, stress, etc. Detailed dietetic history is also important to know about nutritional diseases. At the end of detailed history, one should be able to arrive at 50–90% of clinical diagnosis.

For example:

- Low-grade fever, cough with blood-tinged sputum, loss of appetite and loss of weight in a young person suggest pulmonary tuberculosis
- Jaundice, hematemesis, melena and drowsy state signifies chronic liver disease.

**GENERAL EXAMINATION**

While taking history, quick general survey should be started. Observe the gait as the patient has walked in; whether it is hemiplegic, paraplegic, ataxic, high stepping; whether he/she has titubation of head, tremors of fingers and hands (pill rolling, fine tremors). If you had a chance to shake hand with the patient, whether they were warm and sweating (hyperthyroidism), or cold and clammy (anxiety).

Looking at the face, one can get a clue to hyperthyroidism, thyrotoxicosis, myxedema, nephrotic syndrome, malar pigmentation (chronic malaria), frontal bossing (rickets), mitral facies, mask-like face (Parkinson), moon-like face (Cushing’s syndrome), butterfly erythematous rash over nose and cheeks (systemic lupus erythematosus), and xanthelasma around eyelids and others.

Look at the chest and abdomen for spider nevi, telangiectasia (cirrhosis liver), dilated veins over abdomen, and distended abdomen particularly at flanks with everted or smiling umbilicus (ascites). Look at the legs and the feet for unilateral/bilateral edema, varicose veins, etc.

One must feel for the pulse to know the rate, rhythm and volume. Quite a few physicians forget to feel the pulse. The patient gets dissatisfied if the doctor forgets to feel the pulse. We can diagnose few cardiac conditions by feeling pulse; however, the ayurvedic physicians diagnose a number of conditions by pulse examination.
Section 22

When a patient complains that he/she has difficulty in breathing, I always ask the patient to show me what he/she means by difficulty in breathing. Quite a few of such patients, particularly young females, have air hunger rather than true dyspnea. Air hunger, which is usually due to anxiety or stress, is benign and easy to manage.

Skin examination tells us about anemia (pallor), Addison’s disease (skin pigmentation when associated with oral pigmentation), bleeding disorder (petechiae, purpuric spots), thyroid disorder (vitiligo), scleroderma (tight skin over face and fingers), and myxedema (dry, thick skin). Look at nails for clubbing of nails (underlying cardiac, respiratory or abdominal disease), koilonychia, platynychia (anemia), etc.

In cases of pyrexia of unknown origin, in my experience, inspection of the tongue can be helpful. Tongue coated in the center with tip and margins free, and tremulous tongue suggests typhoid fever.

If the liver is palpable, one should rule out whether it is displaced liver (emphysema) by percussing for upper border of liver dullness. Another important point that my experience has taught me is that we should always feel for left lobe of the liver, which in normal person is not palpable but if it is palpable and has firm, sharp lower border, it is abnormal and signifies cirrhosis of liver.

For flow of blood in abdominal veins, one usually looks for flow from above down (superior vena cava obstruction), below upwards (inferior vena cava obstruction) or away from the umbilicus (cirrhosis liver with intrahepatic portal hypertension) but rarely one gets flow in veins toward the umbilicus (extrahaepatic portal hypertension).

Heberden’s nodes—tender reddish nodules in pulp of finger (infective endocarditis), Janeway lesions (nontender palmar nodules), splinter hemorrhages in nails (infective endocarditis), webbing of fingers with long spidery fingers (Marfan’s syndrome), etc. should be looked for. While taking a ward round, decubitus of the patient gives you a clue to diagnosis, e.g. patient lying in propped-up position with a backrest suggests that he has either left ventricular failure or respiratory problem like bronchial asthma, pneumonia and pneumothorax. Similarly, hemiplegia can be diagnosed by the appearance of affected upper and lower limbs.

Let me share with you just few token cases, which were seen by various physicians and referred to me for my opinion. These cases have been described very briefly to convey the message of the experience-based medicine.

Case One

A 45-year-old man presented with a history of disorientation, confusion, headache and abnormal behavior. During some attacks, he would get palpitation, sweating and tremors. The attack would come particularly when he was fasting. In between the attacks, he would be normal. Because of his abnormal behavior, he was even referred to the psychiatrist. The physical examination was normal. Considering the symptom complex, I suspected that these features were due to recurrent attacks of hypoglycemia due to possible insulinoma. The patient was investigated during the attack when his blood glucose was less than 50 mg/dL. By CT scan, tumor was located in the body of pancreas. Tumor was removed and the patient became alright.

Message is that in every case of recurrent attacks of hypoglycemia, one must suspect and investigate for insulinoma.

Case Two

I was called to see a case in the emergency ward by the casualty medical officer a young male patient aged 35 years with stroke and hypertension. The patient was apparently alright and suddenly developed headache followed by hemiplegia. There was no past history of hypertension or diabetes mellitus. There was no family history of hypertension. On examination, he was drowsy and had left-sided hemiplegia. He had slight neck rigidity. His blood pressure was 180/110 mm Hg. As a habit, I palpated his other arteries after examining radial artery, and to my surprise and expectation found weak femoral arteries. There was radiofemoral delay and there was difference in blood pressure of upper and lower extremity. I, therefore, diagnosed this case as a case of coarctation of aorta causing hypertension with rupture of berry aneurysm (usually associated with coarctation of aorta) giving rise to subarachnoid hemorrhage and stroke. This was confirmed by lumbar puncture showing cerebrospinal fluid blood stained, and MRI brain angiography revealing berry aneurysm over right middle cerebral artery, which had ruptured giving rise to left-sided hemiplegia.

Message is that in every case, particularly hypertension, we must feel all other arterial pulsations after examining radial pulse.

Case Three

Another interesting case, which I recall was a young man of 30 years who was seen by different physicians. He had a complaint of recurrent attacks of weakness of lower limbs that would last for a brief period and then disappear. When I examined him, he had mild hypertension (160/100 mm Hg) but there was no neurological deficit. He was labeled as a functional case by other physicians. I thought that his recurrent weakness of legs could be due to hypokalemia (periodic paralysis or Conn’s syndrome). His investigations revealed hypokalemic alkalosis with mild elevation of sodium. Plasma aldosterone was high and plasma renin was low. Computed tomography scan showed adrenal adenoma, which was removed surgically. On follow-up, the patient was symptom free.

Here again the message is that any patient complaining of recurrent attacks of lower limb weakness, one must suspect hypokalemic paresis and look for Conn’s syndrome or hypokalemic periodic paralysis.

Case Four

A young female of 30 years who was recently married and was on oral contraceptive pills was admitted on surgical side with an acute abdomen. She complained of severe abdominal pain and had not passed motion for 2 days. She gave a history of such an episode few months before from which she recovered. My surgical colleague made a provisional diagnosis of acute appendicitis and referred the case to me for fitness for exploratory laparotomy. On examination, I found that the patient was restless with pulse 120 bpm, blood pressure 150/100 mm Hg and temperature 99.5°F. There was tenderness around umbilical region but there was no localized tenderness of McBurney’s point. The white blood cell count was 10,500 with polymorphs 75%. With history of previous one similar episode, acute abdominal pain with tachycardia and mild hypertension and with history of taking oral contraceptives, I felt that we should rule out possibility of acute intermittent porphyria and asked the surgeon to hold on. Well, after investigations, we confirmed that it was a case of acute intermittent porphyria and was managed accordingly, and her laparotomy was avoided. It is reported in the literature that some cases of acute intermittent porphyria presenting with acute abdomen have been subjected to exploratory laparotomy and/or appendectomy.

Message is that in every case of acute abdomen, one should rule out the possibility of acute intermittent porphyria before doing laparotomy.

These above examples stress the importance of experience-based medicine, which is the reflection of meticulous history and clinical examination. Investigations should always be guided by history and clinical examination as they serve to confirm our clinical diagnosis.
General

EXPERIENCE-BASED MEDICINE VERSUS EVIDENCE-BASED MEDICINE

Every physician uses his/her experience while practicing medicine. Clinical judgment covers visions of experienced physicians endowed with infinite wisdom. Evidence-based medicine is a science where we put research into practice to improve patient care. We should use the best available evidence with our clinical expertise and patient values. For diagnosis and management of a patient, clinical expertise and own experience should be given more weightage and only essential investigations should be ordered when in doubt about our clinical diagnosis.

The younger generation of physicians over advise newer investigations such as MRI, CT scan, PET scan, nuclear studies, coronary angiographies, etc. For simple headache and giddiness, MRI is advised and for any chest pain, coronary angiography is advised. In the absence of evidence, there are other alternatives for the physicians. That is what makes medicine an art as well as science. In my opinion, experience is worth any amount of evidence.

DOCTOR-PATIENT RELATIONSHIP

Every physician has practiced one or more of EBM alternatives. Doctors and patients are to start with usually on different wavelengths. To close the gap between the wavelengths, the doctor has to impress upon the patient by his dress, appearance, personality, and the way of receiving and talking to the patient. Doctor’s consulting room décor, doctor’s secretary and surroundings also have an impact on the patient. If the doctor and the patient have same race, caste and they speak same language, these factors also have positive influence on the quality of the doctor-patient relationship. Physician must address to the patient’s concerns, build trust and be supportive.

HOW TO CREATE CONFIDENCE IN YOUR PATIENT

A smile creates confidence in the patient. A white coat (apron) gives a dignified look to the doctor and has a positive influence on the patient. While taking history, show empathy and be a good listener. Use of more empathetic fellow human voice results in better cooperation from the patient. You must spend time to explain causation of his illness and diagnosis in simple words as it creates confidence in your patient. One should practice conviction-based medicine. Substitute conviction for evidence. To alleviate psychosomatic symptoms and make the patient more compliant, conviction is helpful. No medicine can replace the human touch.

LITIGATION PHOBIA

Fear of litigation is a powerful stimulus for over investigations and overtreatment. Another reason for over investigation is that worried patients feel reassured by normal test results. Hence physicians feel it necessary to do more investigations to satisfy the patient. Because of overspecialization, the recent trend is to refer patients to different specialists, which again leads to more investigations. For fundus examination, the patients are referred to ophthalmologists, whereas we older physicians have been doing fundoscopy as a routine in every case. Physicians do not want to spend time on auscultation of heart for murmurs; hence they send patients for two-dimensional echocardiography. In some western countries, stethoscope is kept in a museum. There is slow demise of clinical examination. Increased specialization will technologize and compartmentalize doctor-patient relationship. Actually today there are very few all-round good physicians having a holistic approach to the patient. Insurance companies picking up hospital bills have also resulted in unnecessary investigations. Social or free beds also result in over investigations.

PROFIT-BASED MEDICINE

Profit-based medicine also influences the treating consultant to favor the use of profitable and lucrative interventions (e.g. coronary angiographies and angioplasties with stent implantation) while making a plan for care of their patients. Hence costly investigations like MRI, CT and coronary angiographies are over advised.

One should not practice pharmaceutical representative-based medicine. The cost of treatment rises if drugs are prescribed under influence of drug representative. Now with recommendation and trend of prescribing generic drugs, cost of treatment should be reduced.

PROVIDENCE-BASED, PROPHET-BASED OR GOD-BASED MEDICINE

When there is no response to the treatment, the decision may be best left in the hands of Almighty. Healing with medicine of the Prophet is the panacea for good health. The Prophet Mohammed says, “Stomach is the home of disease”. Light and healthy diet is the best medicine. Substitute God’s words for evidence. God has made a remedy for every illness. There is no illness without remedy.

BE A CLEVER AND SMART PHYSICIAN

The good physician treats the disease. The great physician treats the patient who has the disease. The greatest physician understands the patient and the context of that patient’s illness. Be a great physician, understand full story of the patient’s illness. Make a correct diagnosis. Explain and discuss with the patient while planning the treatment that best suits the patient.

SHOULD WE TRUST EVIDENCE-BASED MEDICINE FOR EVERY PATIENT?

Some physicians practice purely EBM as it fits all. One size “fits all” is not true, e.g. hats to shoes to clothes. Hence we should not trust our health to a one size fits all, i.e. EBM. According to principles of EBM, the practice variation is bad. Also according to EBM, all patients respond the same way to all medicines. But that is simply not true. Another important point is that EBM is cost-based rather than patient-based. But as we know the same disease varies in different patients; therefore, selection of treatment should be by diagnostics and not by just guidelines.

WHAT IS THE BEST WAY OF PRACTICE?

Evidence-based medicine should be used wisely in conjunction with clinical expertise and experience-based medicine. Old generation physicians who trust clinical judgment and new generation physicians who depend on EBM have usually differences in patient management decisions. Old generation physicians draw upon their personal experience, the evidence to support their clinical diagnosis. However, with progress in medical knowledge and technology, there is easily accessible good quality evidence, which is practiced as EBM.

Evidence-based medicine is used at the expense of the art of medicine (medicine is considered as one of two learned professions along with law). These two professions require advanced training and high principles. Physicians and lawyers study and interpret their material. They agree or disagree with others of similar training who draw different conclusions from the same text. In my opinion, for practicing EBM, physicians should act as professionals, read literature carefully, look for the bias and treat patients with the best advice.

Two different doctors carry out the same care in theory but get different clinical results and different patient satisfaction. And two patients with the same stage of disease may respond differently.
to the same treatment. Even evidence-based treatments are marginally better than placebo, e.g. antidepressants. A doctor-patient relationship can sometimes be more beneficial than a computer-generated prescription. For years the physicians like me have enjoyed the latitude to manage patients on an individual basis according to experience. As a matter of fact, EBM changes medicine from practice of experience and individual-based case-by-case care to cookie-cutter cook book recipes.

From knowledge of experience-based medicine and the recent EBM, I feel that clinicians must apply their experience to assess the patient’s problem and also incorporate the research evidence and patients’ preferences before deciding management plan. Clinical expertise includes skills and experience of physician. Clinical expertise must also encompass and balance patient’s clinical state, relevant research evidence and patient’s preferences. There is a place for clinical judgment and EBM. Physician should be in the driver’s seat and has to apply both appropriately in clinical practice. Older physicians should also accept that EBM is an important phase in the evolution of practice of medicine. It is not included to supplant clinical experience but rather augment and strengthen it.  

Paradigm of absolute reliance on research does not lead to optimal management decisions. Levels of reliability vary, e.g. 100 cases report do not carry the same weight as one well randomized controlled trial. Actually the conflict between clinical experience and EBM is a false one. Evidence-based medicine in its truest form is not only based on a rigorous analysis of literature but also incorporates clinical experience throughout the process. To conclude, both clinical experience and EBM have an important role to play in the formulation of clinical plans. Individualized patient care is our highest call as physicians.

REFERENCES