# Indian Scenario for TDM

Patient Safety

- In developing countries TDM services are broadly of two types: one is like ours in large teaching hospitals where the service is available through departments of Clinical Pharmacology, while the other is in the private sector, where the drug estimations are performed by the clinical biochemistry departments.
- The HPLC technique, which is used by teaching hospitals, is labour intensive, technically demanding and the turnaround time is high. However, as the consumables are available locally, the recurring cost is low.

# Indian Scenario for TDM

Patient Safety

- As the TDM service is provided by utilizing the same infrastructure as for other academic and commercially required studies (e.g. new drug pharmacokinetics, bioavailability); it can be offered at very low charge to the patient.
- Developing countries differ from developed ones in having weak health-care structures, inadequate financial resources, unreliable supply and quality of pharmaceuticals, lack of adequate drug legislation and policy and a high rate of inappropriate self-medication.

# Indian Scenario for TDM

Patient Safety

- Priorities for health services are radically different from those in developed nations; for example TDM of anticonvulsants has a very low priority and may not be asked for even once during the entire treatment period in a patient with epilepsy.
- Funding for drug monitoring services is hard to come by given the dedicated staff and equipment required. It is necessary to overcome the initial barrier; a questioning of the necessity and the utility of such a service. With our TDM service, which began in a very small way, we have been able to use the principles of clinical pharmacology as well as successfully educate physicians and medical students about them.

# Indian Scenario for TDM

Patient Safety

- Today our TDM service includes in addition to phenytoin, phenobarbitone and carbamazepine, lithium, cyclosporin, and valproic acid.
- Our department routinely carries out testing of generic formulations. Interestingly, the nephrologists of the hospital do not prescribe a generic cyclosporin unless its bioavailability has been tested and proven by us.
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# Indian Scenario for TDM

Patient Safety

- At a time when cost considerations in the west have led to pooling of resources between clinical biochemistry and clinical pharmacology departments, in India, the discipline of clinical pharmacology is still fairly new with only a few hospitals having fully-fledged departments.
- The ability of this discipline to be able to contribute in practically every area of medicine and add 'value' to the existing facilities remains its greatest asset.
- TDM particularly in a developing country forms an indispensable arm of this discipline.

REQUEST FORM OF TDM

Patient Name...... Date...... HN......
Age...... Sex...... Wt...... Ht......
Ward...... Ordered by...... Phone No......
DRUG LEVEL REQUESTED......
REASON FOR REQUEST :

( ) Suspected toxicity ( ) Compliance
( ) Therapeutic confirmation ( ) Absence of therapeutic response

Please indicate when level is needed :

( ) within 24 h ( ) within 1-2 h ( ) stat ( ) others......

TIME AND DATE OF LAST DOSE :

Date...... Route : IV, IM, SC, PO, Others......
Time...... Dose...... Freq......

THIS DRUG LEVEL IS FOR : SAMPLING TIME :

( ) Trough or predose level Date Time
( ) Peak level Date...... Time......

DOES THE PATIENT HAVE ORGAN-SYSTEM DAMAGE ?

( ) Renal ( ) Hepatic ( ) Cardiac ( ) GI ( ) Endocrine ( ) Others......

OTHER DRUG(S) PATIENT IS TAKING ......
DRUG LEVEL & USUAL THERAPEUTIC RANGE......
INTERPRETATION......

......

Date...... Technologist...... Time......