DRUGS THAT SAVE LIFE MAY EVEN END LIFE

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Life as defined by J.D. Watson is "nothing else but a series of coordinated chemical reaction". All living cells, and the organs and creatures they form, function as organized system of chemical reactions. That fundamental fact explains why drugs are so important to human well being. The function of the drug is to enter into the living reaction of cells and alter their structure or functions, hopefully for the better. The major effort of effective medicine, in the struggle against suffering, is to find and use beneficial drugs to cure ailments of body and mind. We have now a large number of pharmacopeias ranging from deadly poisons to life-saving antiviral and anti bacterial drugs. We have a large number of pain relievers, hypnotic drugs, anaesthetics, tranquillizers, sophisticated mental soothers and energizers. We know of nicotine, caffeine, alcohol and other depressants and stimulants. Hormones such as insulin, thyroxins, sex hormones and cortisols to substitute for the output of deficient glands, have been synthesized. Some of these synthetic drugs are even more effective than the natural drugs. Some modified hormones can block normal reproductive system and thus can be used as birth control measures. Inspite of all those break throughs, there still remains a lot to be discovered, as there are many diseases that are still taxing the minds of human kind and need urgent attention.

Many advanced laboratories are busy, day and night, in finding how chemicals enter into the complex reactions of cells tissues. Pharmacologists are busy learning to produce drugs that act more powerfully and directly against many ailments such as cancers and other disorders of kidney, heart and blood vessels.

With a deeper comprehension of drugs, civilization stands an excellent chance of poisoning itself with its vast array of chemical and industrial byproducts. Substances that can affect us chemically are all around us, constantly entering our bodies, though we may never know how. For example the soap, rinses, deodorants and depilatories in the family bathroom are in a way drugs. So are the detergent cleaners and metal polishes in the kitchen or the paints and their solvents. The farmers and home gardener have chemical fertilizers, pesticides and weed-killers. With every breath we draw we inhale carbon monoxide, hydrocarbons and oxides of nitrogen from car exhausts, sulphur dioxide and soot from smoking chimneys. All these are drugs. There is not one substance in our environment that cannot, under circumstances, act as a drug. Even the purest distilled water consumed in large enough quantities, can leach enough salt out of body to produce a condition similar to heat exhaustion. Children who gulp down a gallon of water have died of water poisoning.

Many drugs may be highly toxic if injected in large doses but may be a life saver if taken in very small dose. Probably the most fundamental fact about the drugs is that "all drugs are poison, and all poisons are drugs". It is not by accident that the words "poison" and "potion" come from the same root, or that the Greek word pharmakon, which is rooted in the words "pharmacy" and "pharmacology" originally meant both a healing draught and a deadly one.

A drug is any chemical that can cause an alteration in the function or structure of living tissue. Usually the word "drug" implies medicinal chemicals. In other words drugs are those substances that produce desirable changes in the human body, counteracting disease or relieving ailment. Some of these beneficial poisons have almost eliminated and can at least alleviate the
impact of most of the rest. They can increase the speed of slowing heart or slow a fast running one. They can raise the blood pressure or lower it, stimulate the kidneys to excrete more or less and perform many other medically useful functions. They can change functioning of the nervous systems; anesthetics can minimize the pain caused during surgery; tranquillizers can repress the anxieties of the neurotic or psychotic. Alcohol can induce euphoria - or comatose stupor; the opiates can relieve pain or “hook” addicts. LSD causes hallucination which may perhaps sometimes expand the consciousness and may also distort the mind to the point of insanity.

Some of the CNS (Central nervous system) drugs tell us a fundamental truth about all drugs, which are improperly used or sometimes when even casually used, they become poison, producing unwanted effects ranging from temporary nausea to even death. Even some of the most beneficial drug possess adverse effects. The most realistic way of saying about a drug is that the beneficial effort of that drug outweigh its harmful ones, for most patients most of the time.

Search for an effective and more safe drug is an age old profession. Even the early man when he was not conscious of many other things he definitely knew about his health problem. The quest for drug has taken him to strange places, to Africa to South American jungles where “curare” originated to the brews of medicine men, witch doctors, and “wise women” skilled in the use of herbs. This has lead to the discovery of many useful drugs.

The Australian aborgines, who are supposed to be most primitive of all civilized culture on earth, chew “pituri plant” for its narcotic effect. They use some drugs to poison fish. Even the most ape-like primitive must have distinguished, by instinct, intelligence or unhappy experience, between nutritious berries, and poisonous ones, between roots that would maintain life in time of famine and those that would end it in agony.