

we shall know the truth. The internist who neglects the roentgenological examination of the lungs of his patient and the roentgenologist who fails to take into account the teaching of the clinician, both are doomed to bitter disappointment—not once, nor twice, but always and forever.

THE VALUE OF A DRUG*

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I am reading you this little paper to stimulate your imagination.

We need a reformation in therapeutics. I assume no one of you will dissent from this proposition. How it shall be done is open to discussion.

We need to get away from our slipshod, hap-hazard, ill-considered, illogical, inaccurate and irrational selection of drugs in the treatment of disease. I am now teaching my students that "he is best among you who learns the worthlessness of the most drugs."

Benjamin Franklin is said to have been a wise man. I am sure he was because he said "the best doctor is he who knows the worthlessness of the most drugs."

We are not informed as to how he arrived at his conclusion. I shall, however, change his phraseology a little bit and say the best doctor is he who knows the most of the best drugs. Knowing most of the best drugs does not imply that he has an impossible task, because they can be counted on the fingers of the hands.

After many years' experience as a clinician, and also a teacher of experimental pharmacology and therapeutics, I am disposed to think of our text books on materia medica and therapeutics as compilations of the cumulative empiricism of years that are gone, with no attempt at independent investigation nor scientific orderly research in an endeavor to arrive at a rational system of therapeutics. Peruse the pages of any of our modern text books on therapeutics and then spend a little time in scanning those of a more ancient

period and the thoughtful reader will observe that the former is but a rehash of the latter. Tradition has been the impelling influence in the valuation of a drug.

Before I am through you may anathematize me as a therapeutic nihilist and I shall enter a denial, but I do say there is much room for nihilism in therapeutics. I certainly am against Bolshevism in therapeutics. That is our trouble today: too much Bolsheviki in our valuation of drugs.

We are inclined to designate as drug fiends those who are addicted to the use of narcotics, but when we think much about it are not most of our patients fiends for drugs? And when we ponder a little further we may ask ourselves, is it just to censure, because in my humble judgment we ourselves are veritable fiends in the administration of drugs? We are making drugs the panaceas for all the physical ills of life. Bolshevism, Communism in therapeutics! Lord! How shall we rid ourselves of it?

As a practitioner making a conscientious effort to discover means that are specific and have the sanction of scientific authority behind them, I am appalled, overwhelmed and obfuscated by the avalanche of synthetics, the cyclones of proprietaries, the mad-mullahs of superstition, and on top of all that, the insensate raving of my patient for drugs, drugs, I need a drug! And he wants a doctor, too, who knows how (?) and will give him the last one of them.

How many of us have the hardihood to say to a patient presenting himself for the relief of a symptom, obviously temporary and evanescent in character, "you do not need a drug."

I venture to assert that our use of drugs in the treatment of disease is based almost wholly upon routine. Habit in the use of a purgative, a heart stimulant, an analgesic, a narcotic, without any particular reference as to how these drugs are to modify specific symptoms or diseases. Calomel in all conditions needing a purgative because it purges. Digitalis in all conditions of heart failure because it is a heart stimulant. Acetanilid for all forms of headache because it relieves pain. Opium in all forms of diarrhea because it checks secretion. But you say the books

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teach this! Yes, and if you rely upon the books on therapeutics you can select almost any one drug and find that it has been recommended and used in all the diseases to which human flesh is heir.

Carstens said: "Any damn fool can treat disease." I would add as a corollary, but he is a wise man who knows when not to treat disease. How shall we measure the value of a drug?

I postulate this. The true value of a drug depends, or is conditioned upon the stimulating of processes physiologically or chemically, or both, in the body in such a way as to induce increasingly normal physiological or chemical processes, thus effecting in time a relief of the pathology or cure of the disease. Therefore, any drug which retards or prevents a stimulation or increase in these processes, is harmful.

If it does neither it is useless. This, then, is implied.

There can be no scientific nor rational treatment of disease apart from accurate diagnosis. Accurate diagnosis, not only of the disease *per se*, but a thorough knowledge of the physiological and chemical phenomena associated with the disease. The two can not be dissociated. In the treatment of this subject, "The Value of a Drug," I recognize the long-standing conflict between the clinician and the pharmacologist. The subject is, I admit, so complicated in its many phases that it can not be discussed in a single paper, but I insist that you read between the lines and ponder deeply upon your own attitude to your patient in the administration of a drug. Is the impelling influence that of tradition, the desire of the patient, the suggestion of friends, the seductive allurements of the attractive pharmaceutical preparation handed out to you by the glib-tongued detail man, or the fact that you have used it before and the patient recovered?

Now, then, is what I have attempted to say in a general way susceptible of proof? Will it stand the test of rigid analysis?

Let me, then, try to be specific. What has given rise in these latter months to the widespread use of camphor in the treatment of influenzal pneumonia? Or is it better to designate such a common drug

by a more euphonest appellation and call it pneumonic or pneumococci oil? Or will it disturb our fancy if we simply call it camphor in cotton seed oil? Camouflage was developed to a wonderful extent by our war artists, but the proprietary interests have been past-masters of the art for many years. Why are doctors so susceptible to the sting of the proprietary man?

It would take an hour to enumerate the many diseases in which camphor has been used. As far back in its history as I can find it has been used in the treatment of pneumonia, till now, in some quarters at least, it is regarded as a specific. Pray tell me how upon any rational basis it will stand the test?

A doctor whose intelligence I do not presume to question, and whose sincerity I do not doubt, in answer to my question, "How does it act as a specific?" said: "It kills the pneumococci." He has no evidence that it does. There is none, and the only answer is that he does not know what he is talking about.

But I find that the main reason for its use is the belief that it is a heart stimulant. Camphor is not, *per se*, a circulatory stimulant, but, like any volatile oil, may reflexly cause a slight quickening of the heart, accompanied by dilatation of the skin vessels. This is of very short duration and it is of value only a single dose in an emergency, and even then entirely unreliable.

The most significant features in influenzal pneumonia are the exhaustion following a toxic heart, with attendant dilatation of the arterial system and low blood pressure. There is no specific treatment for pneumonia, and hence it is, of necessity, empirical; but we can and should use only those drugs which will meet the test I have given. Camphor does not do so in any sense. It does not strengthen the pneumonia heart. It does not raise blood pressure.

Cushny says, "In man and animals the heart is sometimes slowed, but is generally but little affected either in strength or rate. The slight dilatation of the skin vessels is the only change in the circulation, unless quantities sufficient to cause convulsions are given." Gottlieb and Meyer agree with

him. Heard and Brooks tested camphor upon human beings. In five cases with normal circulation, a hypodermic of camphor, 20 grains, in oil, showed in four cases no change in circulation, and in the other one a fall of 17 mm. in systolic and 25 mm. in diastolic pressure.

In nine cases with auricular fibrillation and other cardio-vascular conditions, there was no change except in two of them, a slight rise in blood pressure. Even as much as 50 grains failed to produce any definite effects either desirable or toxic.

In a case of septicemia in which Bastedo injected five grains of camphor in oil, hypodermatically, three times a day for two days, there occurred on three occasions for about two hours after the dose a distinct weakening of the heart, with depression of the respiration and Cheyne-Stokes breathing.

Sollman says, "Systemically, the effects are very inconstant, owing perhaps to its uncertain absorption and rapid destruction."

It is particularly contraindicated in pneumonia because of the oxygen starvation. This disturbs the oxidation of camphor into glycosuric acid, thus increasing the toxicity. The most frequent result consists in persistent fall in blood pressure (Winterberg-Leibman). The widespread vaso-dilatation results in lowering the blood pressure in the right heart.

Camphor, then, increases the exhaustion by dilating the skin vessels, lowering blood pressure, and causing sweating. I have seen patients treated in pneumonia with camphor until they were completely exhausted, the bed clothing saturated with sweat, and requiring changes several times a day. In my judgment the drug is not only useless, but absolutely harmful, and should be abandoned.

AUTHORS' ABSTRACTS

Medicine

Cerebro-Spinal Syphilis, and Especially Its Treatment. J. Allison Hodges, Richmond, Va. Virginia Medical Monthly, Vol. 45, No. 11, February, 1919, p. 277.

In presenting a case of tabo-paresis to the clinic before the Memorial Hospital staff, the author reviews the various methods of therapy of syphilis of the central nervous system. Admitting that no known method at present is uni-

formly successful in all cases, whether by intra-spinal, intra-cerebral or intra-venous administration of salvarsan, or salvarsanized or mercurialized serum, he is still hopeful and makes a plea for further investigation.

In his own cases he has held largely to the intra-venous salvarsan method, giving it in small doses and repeatedly. He finds that certain types respond better to salvarsan when combined with mercury or potassium iodid or both: first, early syphilis of the nervous system, salvarsan and mercury; second, later forms or the exudative type, all three drugs, salvarsan, mercury and potash; and finally the tabetic type in his experience reacting best to salvarsan and mercury, particularly the meningomyelitic form.

He then cites the work of different men, that of Evans and Thorne, and Duntun and Sargent was not favorable to the intra-spinal method when used alone; Swift's contention that this is the only method that will relieve certain cases; the good results in early paresis with intra-cerebral salvarsan reported by Hammond, Sharpe and Smith, and that Sachs now considers intra-venous injection equally productive of results and far safer, and that the drug reaches the tissues of the nervous system just as surely as by the intra-spinal route.

Arsenic in the Treatment of Skin Diseases.

Cosby Swanson, Atlanta, Ga. The Journal of the Medical Association of Georgia, Vol. 8, No. 10, March, 1919, p. 199.

Arsenic given internally acts directly upon the diseased skin by stimulating the epithelial cells. It stimulates the vaso-motor, trophic centers and peripheral nerve endings. Its tonic and alterative properties on the nervous system increases the nutrition of the skin.

Arsenic is indicated in a few chronic inflammatory dermatoses such as lichen simplex, lichen planus, lichen acuminatus, pityriasis rubra pilaris, psoriasis, especially in chronic cases, pemphigus, dermatitis herpetiformis, mycoses fungoides, cutaneous sarcoma, tuberculides, prurigo, in anemic patients with acne, in chronic eczemas that have areas of lichenification, and diseases caused by the spirochetes.

Arsenic is contraindicated in nearly all acute inflammatory diseases of the skin, in pruritus, in most cases of acne rosacea, in dyspeptic urticaria, in all deep seated diseases of the skin and in acute eczema. It is especially contraindicated when the eruption is coming out acutely and when the patches are very hyperemic.

In eczema arsenic is an uncertain remedy. It may be safely stated that it is prescribed by dermatologists in only a very small per cent. of cases. Arsenic has aggravated as many cases as it has relieved.

Arsenic is a remedy the effects of which are uncertain and often disappointing. The common practice of promiscuously giving arsenic in skin diseases is often harmful and should be condemned. Arsenic instead of being one of the first drugs to be given in skin diseases should be one of the last.