

Marijuana: Therapeutic Application

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The therapeutic application of Cannabis is more a matter of history than of present-day practice. Synthetic analgesics and hypnotics have almost entirely displaced these preparations from their original field of application. The newer synthetics are more effective and reliable and, in addition, have been more intensively exploited by commercial interests. Cannabis preparations have come to occupy so minor a place among modern **medicinals** that it has been suggested that they be abandoned altogether, this latter point of view being based on the assumption that they represent a menace from the standpoint of the hashish habit. Such an action would certainly be too drastic in view of the circumstances. For one thing, the therapeutic use of cannabis and the hashish habit are almost entirely unrelated. The drug has been readily available in this country for almost a century without developing more than a very occasional, isolated instance of hashish abuse. The marihuana habit came into this country by other channels, although it is true that once established as a practice, some few individuals have made use of the "drug store" preparations. The 1937 Federal legislative acts should be wholly effective in making these preparations completely unavailable for any further abuse of this sort. More stringent regulations making the drug unavailable for medical and scientific purposes would be unwise, since other uses may be developed for the drug which will completely overshadow its disadvantages. The drug has certain remarkable properties and if its chemical structure were determined and synthetic variations developed, some of these might

prove to be particularly valuable, both as therapeutic agents and as experimental tools.

Essentially the same general opinion has been expressed recently by the committee on legislative activities of the American Medical Association. They concluded that

there is positively no evidence to indicate the abuse of cannabis as a medicinal agent or to show that its medicinal use is leading to the development of cannabis addiction. Cannabis at the present time is slightly used for medicinal purposes, but it would seem worthwhile to maintain its status as a medicinal agent for such purposes as it now has. There is a possibility that a re-study of the drug by modern means may show other advantages to be derived from its medicinal use.

Although hemp preparations may have been used by the ancients to produce anesthesia, these drugs were not introduced generally into medicine until about 1840. At this time O'Shaughnessy, Aubert-Roche, and Moreau de Tours observed its use in India and Egypt and proceeded to experiment with its therapeutic possibilities. After using it in different sorts of conditions, they were each enthusiastic in representing it as a valuable therapeutic agent. Their activities resulted in a very widespread and general use of the drug both in Europe and America. During the period 1840-1900 there were something over a hundred articles published which recommended Cannabis for one disorder or another.

The popularity of the hemp drugs can be attributed partly to the fact that they were introduced before the synthetic hypnotics and analgesics. Chloral hydrate was not introduced until 1869 and was followed in the next thirty years by paraldehyde, sulfonal and the barbitals. Antipyrine and acetanilide, the first of their particular group of analgesics, were introduced about 1884. For general sedative and analgesic purposes, the only drugs commonly used at this time were morphine derivatives and their disadvantages were very well known. In fact, the most attractive feature of the hemp narcotics was probably the fact that they did not exhibit certain of the notorious disadvantages of the opiates. The hemp narcotics do not constipate at all, they more often increase rather than decrease appetite, they do not particu-

larly depress the respiratory center even in large doses, they rarely or never cause pruritis or cutaneous eruptions and, most important, the liability of developing addiction is very much less than with the opiates.

These features were responsible for the rapid rise in popularity of the drug. Several features can be recognized as contributing to the gradual decline of popularity. Cannabis does not usually produce analgesia or relax spastic conditions without producing cortical effects and, in fact, these cortical effects usually predominate. The actual degree of analgesia produced is much less than with the opiates. Most important, the effects are irregular due to marked variations in individual susceptibility and probably also to variable absorption of the gummy resin.

The reported therapeutic successes and failures of these drugs are briefly summarized below.

Among the miscellaneous conditions for which it has been used and recommended may be mentioned cough, fatigue, rheumatism, rheumatic neuralgia, asthma, and delirium tremens.

Part of the early enthusiasm for cannabis was based on its presumed value as an antagonist of spastic conditions. It was used and highly recommended in the treatment of tetanus, hydrophobia, puerperal convulsions, chorea and strychnine poisoning. In the case of strychnine poisoning, at least, its value is slight. The author, with the help of Horace Dozier, tested the influence of cannabis in so far as it affected the minimal convulsive dose of strychnine in dogs. Even large doses of cannabis did not alter the strychnine effect enough to indicate any significant antagonism. In tetanus and hydrophobia, spasticity is more cerebral in origin and the cannabis antagonism may have been more effective in such cases.

spastic conditions.

In combatting pain of various causes, cannabis preparations might be expected to be reasonably effective. See declared that it

Analgesic uses.

gives relief from pain and increases the appetite in all cases, no matter on what causes the pain and loss of appetite may depend.

Hare says

during the time that this remarkable drug is relieving pain, a very curious psychical condition sometimes manifests itself; namely, that the diminution of pain seems to be due to its fading away in the distance, so that the pain becomes less and less.

Mercer says that it does not arrest pain but has a "special power over spasmodic pain." Wood says that

as an analgesic, it is very much inferior to opium but may be tried when the latter is for any reason contra-indicated. In full doses, in neuralgic pains, it certainly often gives relief.

Audie says that

as a remedy for the relief of supraorbital neuralgia no article perhaps affords better prospects than cannabis.

Headache and
migraine.

Farlow considered cannabis useful in "nervous headache." MacKenzie says that if continued for some time it is the most valuable remedy he has met with in the treatment of persistent headache. Marshall does not consider that cannabis is generally useful but says however that it appears to be useful in headache of a dull and continuous character.

Regarding migraine, Stevens says that *Cannabis indica* is

sometimes very useful . . . Two drops of the fluid extract may be given every half hour until the pain abates or until slight dizziness or mental confusion appears. Even larger doses may be used if necessary.

Osler and McCrae have said that for migraine, *Cannabis indica* is probably the most satisfactory remedy. However, in the latest edition of this text is only suggested that "a prolonged course of *Cannabis indica* may be tried." Solis-Cohen and Githens consider that cannabis is of great service in certain cases of migraine not dependent upon nor aggravated by eyestrain. Fantus recently recommended its use in migraine, prescribing doses of one cc. of the fluid extract in

iso-alcoholic elixir. N. F. McConnell, Bastedo, Hare, Lewis, and Bragman have also favorably mentioned its use in migraine.

Beckman on the other hand says that whereas the drug was once considered a specific for migraine it has recently fallen into "a probably deserved disrepute."

One of the earlier experimenters with hashish declared that

Sedative and
hypnotic action.

in its hypnotic and soothing effects on the nervous system, its resemblance to morphia is very great.

Fronmueller made about one thousand observations on patients in which the soporific effects were compared with other drugs, particularly opium. He considered that the effect on the nervous system was much less dangerous than with opium. In most instances his patients are stated to have fallen asleep in about an hour without any particular side effects.

Bastedo remarks that it may promote sleep in the presence of pain. Poulsson and Dixon say that

sleep has often been seen to ensue without any, or with only slight excitement.

Miller, Berthier, McConnell, Shoemaker, Clendinning, Hiller and Florshinger have also described its usefulness in procuring sleep. Fantus and Cornbleet use it as a general sedative along with sodium bromide in the treatment of pruritis. Lees was very enthusiastic about the anodyne and soporific action of an aqueous extract, which he considered did not produce any of the excitement effects.

In current practice, the sedative effects are probably most used in veterinary work. Milks and Eichhorn say that

cannabis is a distinct depressant to the brain and cord. In man, this may be preceded by a brief period of stimulation but this action is rarely seen in a horse. It is a distinct depressant and hypnotic and probably ranks ahead of opium for this purpose in equine practice. After full doses the animals feel drowsy, sleepy, have a disinclination to move and may finally pass into a stage

of narcosis which may last from twelve to twenty-four hours, and then recover.

One half ounce of the solid extract is cited as being sufficient to anesthetize a horse. This drug is relatively safe if considered simply on the basis of its effects on the circulation and respiratory center. It would seem however that a very real source of danger exists in the possible development of bronchopneumonia during the long period of semi-anesthesia.

Mental conditions.

Moreau de Tours was the first to advocate using the hashish euphoria as a means of combatting mental conditions of a depressive character. He reported a number of case histories of **manics** and **melancholics** which were improved after such therapy. His conclusions were immediately criticized by **Rech**. There have been a few other observations agreeing in general with Moreau de Tours and there have been some who reported adversely on such treatment. Straub recently suggested that small doses of a properly standardized preparation may possibly prove useful in depressive melancholias.

Edes found it benefited patients who complained of unpleasant, tiring dreams and Birch used it in the treatment of chronic **chloral** and chronic opium poisoning.

Uterine dysfunction.

Some have been particularly enthusiastic regarding the value of cannabis in dysmenorrhea and menorrhagia. **Batho** says

considerable experience of its employment in menorrhagia, more especially in India, has convinced me that it is, in that country at all events, one of the most reliable means at our disposal.

Referring to the use of Indian hemp in menorrhagia, **Brown** says

there is no medicine which has given such good results; for this reason it ought to take the first place as a remedy in menorrhagia.

Effects during labor.

Willis recommended its use in "tedious labor where the

patient is restless. " Christison used the drug during childbirth and advocated its use as an oxytocic. He believed it stimulated uterine movements more quickly than ergot. Kobylanski, Grigor and Savignac also reported on its effects during childbirth. These observations may be taken generally as evidence that cannabis does not depress uterine movements. The drug is so lacking in peripheral actions that any special stimulation or depression would hardly be expected.

The question as to the effects of cannabis during labor was recently discussed in the *Journal of the American Medical Association*.

The sensation of pain is distinctly lessened or entirely absent and the sense of touch is less acute than normally. Hence a woman in labor may have a more or less painless labor. If a sufficient amount of the drug is taken, the patient may fall into a tranquil sleep from which she will awaken refreshed. . . . As far as is known, a baby born of a mother intoxicated with cannabis will not be abnormal in any way.

In South Africa the native women smoke cannabis to stupefy themselves during childbirth. A requisite for the successful use of this technic would seem to be a previous familiarity with the effects of the drug. The African natives no doubt use the drug at other times and accordingly are not as likely to be distressed by the occasional terrifying phases of the episode. Also some experience is needed in order to regulate the dose when used in this way. In such obstetric use, the drug has one important advantage as contrasted with morphine, that is, the almost complete absence of any depressing effect on the respiratory mechanism.

There have been numerous suggestions that the hashish delirium may be used in psychiatric analysis as a means of removing the barriers to the subconscious. This was one of the purportedly useful features of the drug as declared in the recent legislative deliberations. Although such an application is not unreasonable, the few trials which have been made were not particularly successful. In contrast with cocaine and amytal, the patient usually becomes more absorbed and less communicative. Lindemann and Malamud observed this while

**Diagnostic
usefulness.**

studying effects in schizophrenics and psychoneurotics. They reported that

new experiences are created which allow new presentations or new fantasies and an increasing neglect of the outside world in favor of experiences which are in keeping with the patient's desires.

They did note that with schizophrenics there was much less change in space and time than in psychoneurotic and normal persons.

There is a fictional account of the use of the drug to obtain confessions from suspected criminals. In general, however, the usual effect of the drug is not such as to make it very useful for such purposes. Von Schrenck described some rather inconclusive experimentation involving the use of hashish in hypnotism.
