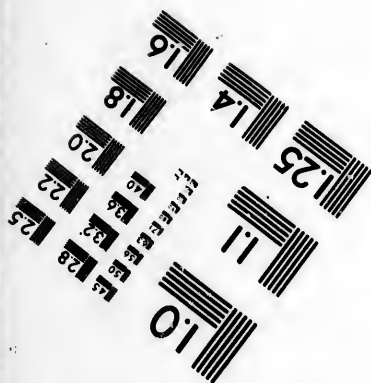
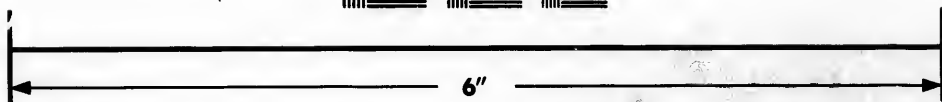
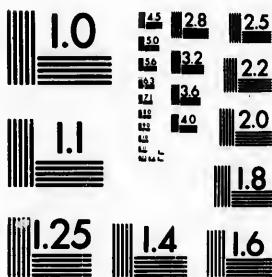


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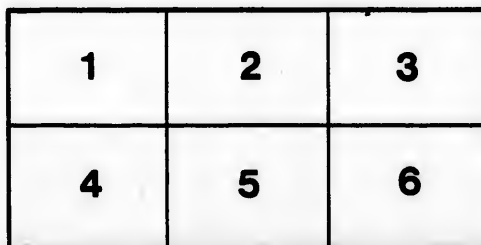
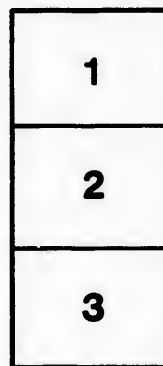
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Re-printed from the "Canada Medical & Surgical Journal," October, 1880.

## THE PREVENTIVE TREATMENT OF HEMICRANIA BY CANNABIS INDICA.

By JAMES STEWART, M.D., BRUCEFIELD, ONT.

(Read before the Canada Medical Association, at Ottawa, September, 1880.)

During the last three years I have used Cannabis Indica in 15 cases of true Hemicrania, with the following results: In 3 cases a cure has resulted; in 6 cases, great relief, with a lengthening of the periods between the attacks; in 3 cases no appreciable effect followed; and in 2 cases the administration of this drug was decidedly injurious, the periodic attacks recurring with greater frequency and severity after its use. In one case half a grain daily was sufficient to bring about the full intoxicant effects, and the patient, a lady aged 35, was unable to continue it, even in the very moderate dose of a quarter-grain daily. The following is a brief history of the cases cured:—

CASE I.—Mrs. R., aged 48. Still menstruating, but irregular; has been troubled with sick headache for 20 years. Formerly the periodic attacks returned about once a month, but for a period of six weeks their recurrence has been weekly. She does not vomit, but feels sick and dizzy as the attacks pass off. She was ordered  $\frac{1}{4}$ -grain doses of hemp twice a day, and during the following six weeks she had only one slight attack. The dose was then increased to half a grain twice a day, and continued at that rate for a further period of five months. It is now 18 months since she commenced the half-grain doses, and a

a year since she stopped taking it, and she has been free from her headaches since.

The second case was a typical hemicrania in a man 28 years of age, with a markedly *neurotic* family history. He has been troubled for 10 years, and during the last year the attacks recur about once a week, and are ushered in by giddiness and dimness of vision. He commenced taking the hemp in September, 1877, in half-grain doses three times a day, and continued it for a period of six months. He had only two attacks afterwards. It is now 18 months since he discontinued using the hemp, and during this time he has had no recurrence of his headaches.

The third case cured was in a married lady, aged 26, who was subject to unilateral periodic headaches for 10 years, recurring about every two weeks. She commenced with a grain of the hemp daily, and took it continuously in those doses for six months. She had only one attack after commencing treatment. Up to the present she has been free from her headaches for two years.

In the three cases just narrated, the patients have all been free from headache for a period of nearly two years in each case, and can therefore be called *cured*. In the first case, that of a lady 48 years of age, it might be considered that as hemicrania often disappears spontaneously at the menopause, the Indian hemp had very little to do with the cure: but she was free from her hemicrania some six months before the cessation of the catamenia.

In the six cases where great benefit was derived from the hemp in mitigating the severity and lengthening the intervals between the attacks, the drug in two of these cases has not as yet been taken for a sufficient length of time to decide whether these cases will be placed among the list of cures or those simply relieved. One of these cases is as follows:—

Mr. B., aged 54, says he has been subject to sick headache for four years. The pain starts suddenly in the region of the left supra-orbital foramen and extends upwards over the left parietal bone, and is attended by a subjective feeling of coldness and an objective feeling of heat. Palpitation of the heart sets

in as the headache reaches its acme. The attacks, which last from 6 to 12 hours, are ushered in by giddiness and dimness of vision. In February of the present year he commenced taking half-grain doses of Indian hemp three times a day, since which time he has had only one slight attack. Prior to the administration of this drug they recurred almost weekly.

Another case of this group is in a young lady, aged 18, who has had sick headache as long as she can remember. The attacks of headache, which come on about once every two weeks, are ushered in by blindness, giddiness, and trembling of the lips. She commenced taking a grain of hemp daily in April last, and up to the present has had no further trouble.

The treatment of the remaining four cases of this class has not been so satisfactory as the two just narrated. Still, in all of them the benefit derived from the hemp has been marked.

The third group of cases comprises three where no effect, beneficial or otherwise, followed the use of the hemp. In one case at least of the above, the drug was not taken with that regularity which is necessary to success.

The fourth group is made up of two cases that were both undoubtedly made worse by the continuous use of the hemp.

The first case of this series was in a man, aged 23, who has been subject to sick headache for several years, but only during the hot weather. During the paroxysms, which recur as often as twice a week, the head feels very hot, and he says the pain is of a beating character. He was ordered half-grain doses of hemp three times a day, which he took for only a week. He said that he was compelled to discontinue it owing to its making his headache worse, the attacks recurring oftener and being of increased severity. He was rapidly and effectually relieved by 15 m. doses Fluid Ext. of Ergot three times a day. This was a case of the angio-paralytic variety of hemicrania described by Mollendorf. The vessel-dilatation being in all probability induced by the depressing effects of the heat on the vaso-motor centres, and as further strengthening this view, I might mention that the paroxysms set in in the early morning, when the vital powers were

at their lowest, resembling in this respect a certain class of cases of heat apoplexy.

The second case aggravated by the use of the hemp occurred in a woman, aged 35. She has had typical attacks of hemicrania ever since her marriage, ten years ago. Latterly the paroxysms have been of a severe type, and are attended by flushing of the face, ringing of the ears, &c. In this case I was fortunate enough to get an ophthalmoscopic examination of the fundus during one of her severest paroxysms. I found the vessels, both arteries and veins, on the affected side considerably dilated. The contrast in this respect between the two eyes was marked, the vessels on the sound side being apparently normal. She was ordered half-grain doses of Indian hemp twice daily, but she had to discontinue its use after a trial of three weeks, owing to its aggravating her trouble. She is taking ergot at present, but with what result I have not learned.

Dr. Richard Greene was the first, I believe, to recommend *Cannabis Indica* in hemicrania. Dr. Seguin has also testified to its beneficial action. It has not, however, been used by the profession to any extent in alleviating what is universally recognized as a distressing and obstinate malady. Practitioners, as a rule, content themselves with simply ameliorating the severity of the paroxysms. That Indian hemp is capable (when given in continuous doses for a length of time) of curing hemicrania in a certain percentage of cases seems undoubted. "The study of the action of a remedy shows the nature of disease." This aphorism we have from Hippocrates, and daily experience shows the wisdom of it. The study of the action of Indian hemp shows in what cases it is likely to be of benefit; and further, it tends to throw light on the pathology of hemicrania. Indian hemp produces dilatation of the blood-vessels; further, this dilatation seems to be confined to the vessels mediated by the cervical ganglia. It is the almost universal experience of those who have taken this drug in full doses that the first symptoms are, a sense of fullness and heaviness in the head. A very common feeling is that of the brain boiling over and lifting the cranial arch like the lid of a tea-kettle. The face is flushed, the



arms are heavy and hot, the legs cold and lifeless, and pupils contracted. These symptoms show that the hemp does not induce its dilating effects on the arterioles through a paralyzing effect on the general vaso-motor centre, but that its influence is exerted through the cervical ganglia and their cranial prolongations, or through the medullary centre in the dorsal cord. I have performed a number of experiments on rabbits with the object of watching what (if any) effects were produced by the hemp on the circulation in the ear and fundus of the eye. A dose of two grains was in seven experiments invariably followed by a perceptible dilatation of the vessels of the ear, and vessels previously invisible came into view. Temperature also increased. The vessels of the fundus of the eye also presented undoubted signs of enlargement. Ten grains proved fatal in a rabbit weighing 3 lbs., and on *post-mortem* there was found marked hyperæmia of the brain, but especially of the meninges.

Seeing that hemp is a vascular dilator, it would be indicated in those cases of hemicrania where there is arterial spasm, and it is in all probability only in those class of cases where we may expect benefit from its use. In the opposite class of cases, where there is dilatation of vessels—the neuro-paralytic variety of hemicrania—it would be unrational therapeutics to order its administration. I have given a report of two cases of this nature where its administration did harm. From the well-known contractile effects of ergot on the arterioles, we would expect it to do good in this—the neuro-paralytic variety of hemicrania. Strychnia also would be indicated in this class of cases, for experiment has demonstrated that it has a marked effect in stimulating the vaso-motor sub-centres of the cord, as well as the general vaso-motor centre in the medulla. In fact it was through the physiological action of strychnine that the existence of vaso-motor centres in the cord was demonstrated.

Besides the two forms of hemicrania where the vaso-motor nerves play so prominent a part, there is undoubtedly a third class that are unaccompanied by any vaso-motor change. Unfortunately we are not able in every case to say what form of hemicrania we have to deal with, and have, in consequence, to

work for a time at least in an empirical manner. I think the following will be found to be a good working rule in the majority of cases, viz., the cases of hemicrania that are relieved during the paroxysms by Nitrite of Amyl are likely to be greatly benefited, if not entirely cured, by the continuous use of Indian hemp. The drug should be given continuously for a period of at least six months, and in doses of a  $\frac{1}{4}$  to  $\frac{3}{4}$  of a grain three times a day.

From an analysis of the cases reported, I think the following conclusions are warranted :—(1) Indian Hemp will cure a certain per centage of cases of hemicrania. (2) It is only of benefit in the class of cases which have vascular spasm as the fundamental condition of their initial stage.

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