

means there is far less fear of giving an over-dose than when three or four minims only are used, as, of course, in this case one minim more than intended, and which may very readily be injected through any difficulty in the action of the syringe, would administer one-third or one-fourth more than intended, whereas, if one-twentieth more than intended be accidentally given, it would be of little or no consequence.

The dose, however, of half a grain of the hydrochlorate of morphine, as recommended in the article, is very far too large, and I have no hesitation in declaring it in many cases absolutely poisonous; my experience being that the action of morphine, when given hypodermically, is nearly or quite twice as powerful as when administered by the stomach. The preparations of morphine moreover are not always uniform, and in consequence of this, and in my experience the safer and pleasanter action of Battley's Sedative, I have for several years confined myself to this with the addition occasionally of one seventieth part of a grain of atropine.

I trust you will excuse my writing as strongly as I have done, as I feared the article might be acted on by some young or inexperienced practitioner, in which case there would, I am sure, be great danger of poisoning.

I remain,

Yours truly,

F. D. GILBERT, M.R.C.S.L.

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## Progress of Medical Science.

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### REMARKS ON THE ACTION OF CROTON-CHLORAL ON MEGRIM.

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It is hardly necessary to observe that under the term megrim I include those affections commonly called sick headache, bilious headache, nervous sick headache, and hemicrania. The most characteristic and commonest symptoms of megrim are headache and sickness; but, in a typical case, these symptoms are preceded by other significant and interesting phenomena. At the onset of an attack, a peculiar affection of the sight first occurs, soon to be followed by perversion of the sense of touch and of the muscular sense in the arms and legs; by disordered speech and defective ideation; the headache then comes on, and, as it becomes intensified, nausea gradually sets in.

The affection of the sight may consist of mere absence of vision, beginning at the centre or circumference of the field of sight. When at the circumference, the defect is generally situate to the right or

left of the axis of vision. From the centre of the visual field, the blind spot gradually expands, and as it enlarges it then clears up in the centre, and so gradually disappears to the circumference. As the blind spot expands, its margin is often lighted up with spectra variously described as glimmering, dazzling, bright zig-zag lines, coruscations, etc.

In ten minutes to half an hour, on one or both sides of the body, numbness and loss of sensibility occur, followed by tingling, formication, "pins and needles," felt most distinctly in the hands, tongue, and lips. Speech is commonly disordered, the aberration in some cases being simply memorial, in others simply motorial; in others, again, these two derangements of speech are more or less combined. In other words, one patient forgets his words, another forgets how to utter them, whilst a third manifests a combination of these two defects. There is, too, loss of memory, confusion of ideas, and a bewildering feeling, as if the patient were going out of his mind. In half an hour or a little longer, these phenomena are followed by headache, which is generally felt on waking in the morning; it is at first slight, but intensifies till it may become most severe, indeed, almost unbearable. It affects one or both brows, and beginning at one spot, gradually extends, till it may involve the greater part of the head. The throbbing, stabbing, cutting, boring pain is increased by movement, noise, light, smells, or food. When the area of pain is very limited, the complaint is termed *clavus*. As the pain subsides, or even during the whole attack, the patient may suffer dull or shooting pains in the eye of the affected side. There is much tenderness of the scalp during and after an attack.

Throughout the attack, the patient complains of nausea, which may be slight, but usually increases, and, when the pain is at its worst, ends in vomiting, which may be severe and prolonged, causing much prostration; yet occasionally vomiting affords relief.

Lasting a few hours, the whole day, or even two or three days, the attack generally ends in calm refreshing sleep, but sometimes it gradually subsides or ends abruptly in vomiting, perspiration, or, more rarely, a copious flow of tears. The attack may be preceded and followed by very obstinate constipation or by diarrhoea, the liquid motions being in some instances pale, in others of a deep brown, mahogany colour. Before and after the attack, there is often much dusky discoloration around the eyes.

It is now almost universally held that megrim is an affection of some part of the nervous centre. Dr. Liveing, to whose exhaustive work I am considerably indebted, considers that, in a typical case, the disturbance takes place first in the optic thalamus, and passes backwards and downwards, reaching to the nucleus of the vagus below; for, as he observes, in a typical seizure, the visual disorder is always the initial symptom, the headache the middle, and the vomiting last. Where morbid intellectual phenomena and disorder of speech occur, the affection radiates from the thalamus to the hemispheric ganglia, and, where emotional phenomena occur, to the mesocephale.