drops each day, until distinct amelioration in the patient's condition is evident. The writers had never had occasion to exceed in this way two hundred drops daily, but would not hesitate to increase the dose very much more if need be.

5. Spray baths of very short duration, and only when the physical condition has markedly improved.

HÆMORRHAGES AND FALSE MEMBRANES.

Wiglesworth's¹⁰ views on such lesions within the cerebral subdural space, occurring in the insane, are in summary the following:—

1. The morbid conditions described under the term pachymeningitis interna hæmorrhagica are not the result of inflammation at all, but are solely due to the effusion of blood beneath the dura mater; the hæmatomata thus formed becoming organized, and eventually converted into fibrinous membranes.

2. Such effusions of blood are especially liable to occur in the insane by reason of the loss of support sustained by the meningeal vessels, on account of the convolational atrophy which is so marked a concomitant of insanity, assisted as this condition so frequently is by transitory or more permanent congestions.

3. It is because these conditions are most perfectly fulfilled in general paralysis that hæmatomata are more often met with in this disease than in any other form of insanity.

4. Whilst subdural hæmorrhage occurs by far the most frequently in chronic cases of insanity, it is also met with in a small minority of acute cases, chiefly, if not solely, when the symptoms have been of a melancholic character; and in these cases the hæmorrhage may introduce a complication which may actually be the cause of the death of the patient.

5. Whilst in the great majority of cases traumatism may be confidently excluded, there seems reason for believing that, under favorable predisposing conditions, a slight injury may start a hæmorrhage which may prove fatal.

HYDRATE OF AMYLENE.

The employment of this drug, "especially in the treatment of lunatics," is the subject of a report by Scharschmidt of its use in Prof. Jolly's clinic for psychiatry.¹¹ The eighty cases in which hydrate of amylene was employed embrace the following affections: twelve cases of melancholy, partly with stupor, five cases of melancholia agitata, thirteen of paralytic dementia, four of primary dementia, seven of insanity with hallucinations, one of hypochondria, one of stupor, one of chronic alcoholism with periodical sleeplessness, ten of mania, two of incoherency ("Verwirrtheit"), six of delirium tremens, four of acute delirium, one of hysteria with sleeplessness, one of hysteria with delirium, one of epilepsy with delirium, and one of epilepsy with attacks of hyperexcitability.

In simple melancholy 1.6–3.2 grammes (26 grains to 2 scruples and 13 grains) sufficed even in cases in which 1.5 gramme (25 grains) of chloral had failed. These doses, in certain cases, had a better effect than 7.5 grammes (2 drachms) of paraldehyde.

¹⁰ Journal of Mental Science, January, 1883.

¹¹ Therapeutische Monat., No. 9, 1887, and Centralblatt für die gesammte Therapie, Dec., 1887.

One (female) patient made continued complaints of determination of blood to the head, a constant concomitant symptom of the affection which could not be relieved either by hydrate of amylene or by paraldehyde, chloral, or urethan. Melancholia agitata required larger doses. In this form 4.0 grammes (1 drachm and 6 grains) of the hydrate of amylene were necessary to procure a whole night of sleep. Once the attempt was made to relieve by diurnal doses the restlessness and excitement in a female patient during the day, but without the desired success. However, she slept during the night without another sleeping draught. The hydrate of amylene proved most beneficial in paralytic dementia. The apathetic form required only small doses of this hypnotic: 1.6–2.4 grammes (26 grains to 2 scruples and 13 grains), the effect of which corresponded to that of 5.0–7.5 grammes (1½ drachms to 2 drachms) of paraldehyde, or 1.5 gramme (25 grains) of chloral. Urethan in doses of 3.0 grammes (2½ scruples) was without action, and 5.0 grammes (4 scruples) had varying effects. Attacks of excitement demanded increase of the doses. In the other forms of dementia the effects of hydrate of amylene were equally satisfactory.

While in chronic alcoholism with sleeplessness smaller doses of the hypnotic were sufficient, larger ones were necessary in every case of delirium tremens: 4.0–5.0 grammes (1 drachm to 4 scruples) must always be given in order to produce effect.

In mania, at the commencement, smaller doses of 2.4 grammes (1 scruple and 17 grains) of hydrate of amylene were tried. The action was very tardy, and the patient either slept with many interruptions or remained altogether restless; larger doses of 4.0–5.0 grammes (1 drachm to 4 scruples), on the contrary, produced longer continued sleep almost without exception. In such cases frequently 1.5 gramme (24 grains) of chloral, and 7.5 grammes (2 drachms) of paraldehyde had no effect, 3.0 grammes (2½ scruples) of urethan failed, and 5.0 grammes (4 scruples) of it not always procured sleep. Epilepsy was as little influenced by hydrate of amylene as by paraldehyde. But sleeplessness and nocturnal restlessness were relieved by 3.2–4.0 grammes (2 scruples and 13 grains to 1 drachm) of hydrate of amylene. The same effect took place in hysteria with sleeplessness and delirium.

Clinical Department.

VICARIOUS MENSTRUATION, RESULTING FATALLY.¹

BY HOWLAND HOLMES, M.D., LEXINGTON, MASS.

I was called late at night December 6th, 1888, to see Miss D. The father told me on the way to his house that she had been vomiting blood,—a fearful quantity,—it seemed to him "a pailful." She had had a similar attack, vomiting blood, last February, while attending school in Hartford, Conn., and was attended there by Dr. Smith, who thought it a case of vicarious menstruation, as did Dr. Hudson, of Milford, N.H., who had previously been her adviser. For the last three years she had had

¹ Read before the Middlesex East District Medical Society, 19th Dec., 1888.

copious epistaxis, but not at regular or *monthly* intervals. She lacked a few days of being seventeen years of age, weighed one hundred and twenty-eight pounds, and had never menstruated but once, — two months previous to this illness.

On being shown into her room, I found a finely formed, well-developed young woman of more than the average size of her age, very restless in bed, ejaculating now and then words showing a deluded mind. She showed no distinct consciousness of her condition or wants; said she had no pain, did not know if she felt uncomfortable anywhere; thought those two young men (her neighbors) ought not to be in her sick chamber with her; wanted water, wanted something to eat, wanted to go to bed, etc. This was the state of her mind.

She was pale, with a pulse 110, so small I counted it with great difficulty. Her respiration was easy, and her lungs clear and resonant. Her abdomen was not distended, fairly full and soft, but not tympanitic. She had very frequent sighing, some yawning, with much jactitation.

During the two hours I remained with her she took very small quantities of oyster broth, milk, or water several times, with assistance to sit up in bed. She had not vomited for twelve hours; but in using the vessel some hours before I saw her, she passed a small quantity of blood, and a digital examination indicated that it did not come *per vaginam*.

She had taken scarcely any sleep or nourishment for more than twenty-four hours. Before leaving her I prescribed nourishment, stimulants, and opiates. The family had once resided in a neighboring town to Lexington, and the patient's mother had consulted her family physician in that place the 4th December, for something to bring on her daughter's menses, and again the 5th for something to stop her vomiting blood, which began at 2 o'clock that morning. It was Thursday night, 6th December, when I saw her, and advised the parents to call their old family physician early Friday morning, which they did. He came and remained with the girl nearly four hours; gave her a rectal injection, which was followed by a small alvine discharge, mostly blood. He indorsed my treatment, promised to see the patient again in the afternoon, and left about 10 o'clock A.M.

Her condition soon became more alarming, and before 11 A.M. I was called in hot haste; but she was dead within thirty minutes, and before I reached the house. She had sunk easily and gradually.

She had never been considered a robust girl, nor yet a sickly one; had not a hæmorrhagic diathesis, had always been fond of the country, and had indulged in frequent rambles in the time of berries. Her physician coincided with me that her death was caused by internal intestinal hæmorrhage, and we both pleaded in vain for an autopsy.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. B. HARRINGTON, M.D., SECRETARY.

MONDAY, January 14, DR. O. F. WADSWORTH, President, in the chair.

DR. MORTON PRINCE read a paper on

THE OCCURRENCE AND MECHANISM OF PHYSIOLOGICAL HEART MURMURS (ENDOCARDIAL) IN HEALTHY INDIVIDUALS,

of which the following is an abstract: —

The reader had studied and analyzed the cardiac phenomena in eighty-six consecutive subjects, applicants for positions in the Boston Fire Department. After eliminating nine cases in which there were coexisting signs indicative of or suggestive of organic heart disease, there remained seventy-seven presumably healthy individuals. Of these seventy-seven, a systolic murmur, with all the characteristics of a mitral regurgitant murmur, could be heard in twenty-six cases.

The reader had taken numerous steps to confirm the accuracy of these observations, and among them had requested Dr. McCollom to note the frequency of similar murmurs amongst applicants for the Police Department. As a result of his entirely independent examinations, Dr. McCollom had found twenty-seven "mitral regurgitant murmurs" in two hundred presumably healthy men. These murmurs must accordingly be physiological — not pathological.

Some of them might be cardio-respiratory, but the greater number could not be explained by this hypothesis. In some cases, for example, two murmurs of different pitch could be detected, one of which was undoubtedly cardio-respiratory; the other consequently could not be. After tabulating the coexisting phenomena, it was found that while no relation seemed to exist between the pulse-rate and the existence of the murmur, it was found that of forty-two cases in which the strength of the heart's action was recorded, it was above the normal in strength in twenty-nine, natural in thirteen, as follows: —

29	{	Souffle in 19.
		None in 10.
13	{	Souffle in 1.
		None in 12.

Again, taking the converse of this, of these twenty cases with mitral systolic murmurs, the heart's action was recorded as above the normal in nineteen, and as natural in only one. The increased strength of the heart's action was also shown by the frequent presence of arterial murmurs.

To explain these murmurs, the mechanism of the mitral valve was discussed, and it was shown how the mitral opening was much larger in diastole than in systole, and that to close this opening two actions were necessary: 1st, the sphincter action of the muscular fibres surrounding the opening; and 2nd, the approximation of the valve-segments. It was generally recognized that, if anything weakened the power of the sphincter, regurgitation took place, owing to the valves being too small to fill the opening.

The reader then maintained the converse of this, as an explanation of the murmurs described in the paper, namely, *given a normal healthy sphincter, but with excessive pumping action on the part of the heart under strong nervous excitement, and a temporary leakage might occur from the blood being forced through the sphincter in spite of the action of the latter.*