

cause the mammary excitement which accompanies the early part of lactation, propagates its influence to the uterine system, promoting there active contraction. Indeed, it appears to me very probable that chronic relaxation after early abortion (independently of hemorrhage) being so much more frequent than it is after delivery at advanced periods of pregnancy, is attributable to the want of the mammary excitement. But the nursing we may find it necessary to prohibit beyond half or a quarter of the usual period. Every day's experience convinces us, that one woman will suffer more exhaustion by three months' nursing, than will another by twelve; and one of the ill effects thus produced is, I have reason to believe, this very condition of the uterus. It is perfectly well known that when nursing disagrees, or has been too long continued, the prominent symptoms are precisely those which accompany a relaxed uterus induced by other debilitating causes, and from examinations made under such circumstances, I have learned that the condition of the uterus which I have been describing is very frequently induced in a greater or less degree. In July last I saw a lady, of apparently sound constitution, who had been nursing for nearly seven months, and presented many of the morbid effects of undue lactation, such as derangement of the digestive organs, pain in the back and left side, with almost constant slight red discharges, and occasional leucorrhœa. I found the vagina greatly relaxed, the uterus slightly descended, enlarged, and softened, and the os uteri sufficiently open to admit the end of my finger. Immediate weaning, attention to the digestive organs, tepid salt-water baths, tonics, and sea-bathing, soon completely restored her health. Dr. M. Hall says that "the uterus suffers," but he does not specify how. I have only to add to what he has said, that what "the uterus suffers" is relaxation, both of its tissue, by which its vessels are allowed to discharge their contents too readily; and of its connexions, by which it acquires a tendency to prolapse: and when patients who have unduly given milk, conceive within a short time, they very generally miscarry.

The remedies that will do most service are in these cases, preparations of cinchona, gentian, colomba chalybeates, mineral acids, country air, sea bathing, and cold topical ablution. Should the hemorrhage burst out profusely, the tampon with pressure, instantly, and the ergot of rye, are the means on which generally our greatest reliance ought to be placed. *Occasionally* an opiate, or the application of cold, may be used with advantage; but I cannot avoid observing, that the indiscriminate liberality with which both these remedies are applied in practice is greatly to be deprecated. A napkin is often soaked in cold vinegar and water, laid

on the external parts, and removed smoking with heat; this is only a pretence of doing good. The general principle on which cold should be used, is that of its sudden application, as a stimulus to contraction, and not from its refrigerating power. With regard to the ergot of rye in cases of protracted menorrhagia, the specific action of that remedy is strongly confirmative of a belief that those discharges are often dependent on the relaxed state of the uterine fibres we have been considering, constantly leading to a suspicion of organic uterine disease, a suspicion which a vaginal examination rather tends to confirm, the organ being found increased in size, with the cervix and os uteri tumid and puffy; and I am strongly disposed to believe that this is really the condition of the uterus represented by Madame Boivin, 23rd Plate, Fig. 1, which she describes as "a scirrhus tumefaction of the posterior lip of the os uteri, taken from a woman who died of pulmonary consumption, after an abortion in the sixth month."

#### POISONING BY HYDROCYANIC ACID.

By T. G. GEOGHEGHAN, M.D., *Prof. of Med. Juris. to the Coll. of Surg. in Ireland.*

THE particulars of the following instance of poisoning with hydrocyanic acid were related to me by the individual himself, and those who witnessed its effects:—

A gentleman, aged 21, being subject to uneasiness in the stomach, was induced to have recourse to hydrocyanic acid. He commenced with one minim of the acid of the Dublin Pharmacopœia (sp. gr. .998); this dose he repeated twelve times the first day, without any perceptible effect. On the following day he took half a drachm, on the third a drachm, which he repeated on the fourth day, and on the fifth day a drachm and a half; all without effect of any kind. On the sixth day he increased the dose to two drachms, and two minutes afterwards (a sensation of extreme bitterness being produced in the mouth), having walked a few paces, he experienced a feeling of great confusion, with headache, and loud ringing in his ears. With difficulty he retraced his steps, leaned forward on a table, became insensible, and then fell backwards, remaining in this state three or four minutes, during which time he was violently convulsed, and, to use the expression of the medical gentlemen present, affected like a rabbit poisoned with the acid. After he had become insensible, and while leaning on the table, his thighs were drawn up on the abdomen, and rigid; and as he was about falling they caught him, and placed him on the ground. The upper extremities were then

also rigid; and on drawing them from the side, they forcibly reverted to their former position; the eyes were shut, and the muscles of the face violently convulsed. The teeth being clenched, the solid sesqui-carbonate of ammonia was applied assiduously to the nostrils, and he was shortly able to swallow a little fluid. (Two drachms of the spiritus ammoniæ aromaticus were diluted with a little water to give to the patient.) Vomiting supervened with great relief, and in half an hour he was quite well, with the exception of pain and a feeling of distention in the head, which continued for the day. His old complaint was completely removed by this extraordinary dose. The acid taken on the various occasions was diluted with water; the total quantity consumed being a little more than six and a half drachms of an acid, the per centage of real acid in which, according to Ure's table, should be 1.5.\*

The above case was witnessed throughout its whole course by persons competent to observe the symptoms, thus affording an opportunity of acquiring data which are seldom to be obtained where this agent has been taken by accident, or for self-destruction. In a paper on the treatment of this form of poisoning in the *Annales de Chimie*, vol. 43, by MM. Persoz and Nonat, the symptoms are divided into three stages: 1. General malaise (or giddiness); 2. Tetanus; 3. Interrupted respiration, or what Orfila occasionally terms the stage of flaccidity and insensibility, during which the pulse rapidly fails, and finally becomes extinct. I have frequently observed animals to which this acid had been administered, perform rapid motions with the mouth and jaws, as if a powerful impression had been produced on the nerves of taste. Coullon (Paris, 1819) states that in experiments on his own person, he experienced, from doses varying between twenty and eighty-six drops of the acid (of Vauquelin?), an insupportably bitter taste, nausea, hurried pulse, weight and pain in the head, succeeded by

a feeling of anxiety, which lasted about six hours. In man I have observed that the coma is often well marked previous to the convulsions. In animals, on the contrary, convulsions frequently, if not generally, precede coma.

In the case detailed, vomiting was not present at first. This symptom is mentioned by some writers as indicative of a fatal termination; but recorded instances afford reason for concluding, that although late in the order of symptoms, it is generally a favourable one. In the present case it was followed by great relief; and Coullon mentions many instances in which even alarming symptoms were dissipated on spontaneous vomiting. In its toxicological relations there can be no doubt of the propriety of classing it amongst the narcotic poisons, though it seldom produces sleep. Its therapeutic action, however, appears to demonstrate the propriety of placing it amongst "sedatives," as has been done by Dr. A. T. Thomson.

The property of hydrocyanic acid, of often not acting in certain doses, while a slight increase in the quantity produces violent effects, appears to have been hitherto little noticed by writers, but it is obviously of considerable importance, and leads to the consideration, whether under any circumstances it can be considered as possessing an accumulative power. Whether there be conceded or not to this poison a power of accumulation, it should be borne in mind for many reasons, that minute difference in dose is capable of producing the greatest disproportion in effects. Occasionally the acid presents the most extraordinary anomalies in its action. Thus, Richard knew a patient take even twelve ounces of laurel water, prepared by one of the first pharmacians in Paris, in the twenty-four hours, without any symptoms of poisoning. Dr. Montgomery failed in killing a cat with a drachm of the medicinal acid, while a drop and a half of the same acid (kept for three years longer) almost instantaneously destroyed a rat. In the *great majority* of experiments which I have made on the subject, young animals have been less sensible to its action than old ones. The interval which may elapse between the swallowing of the poison and the commencement of its action, became a question of great importance in the trial of Freeman for the murder of Judith Buswell at Leicester, April 2, 1829. Five drachms of the medicinal acid had been taken, and the bottle was found corked and wrapped in paper beside the bed of the deceased, who lay in a composed position. The question arose, could the deceased, after taking that quantity, have had time to perform the various acts which her position and surrounding objects indicated? In the instance detailed first in this paper, a quantity equal to twenty-five drops of the

\* From a careful examination of two distinct portions, I ascertained the per centage of real acid to be .60. Therefore the reputed strength of the acid of the Dublin Pharmacopœia is  $2\frac{1}{2}$  times that of the fluid employed in this case; and the per centage of the acid generally used in England, if correctly prepared and carefully preserved, is five times as great. From calculation, however, grounded on the quantity of materials employed, the strength of the acid of the Dublin Pharmacopœia *should* be about three per cent.; the acid which was used in the instance under consideration was prepared from the ferrocyanide of potassium, and it should be mentioned, that its chemical examination was not undertaken for a few weeks after its employment; it had been, however, carefully preserved, and, when I got it, was perfectly limpid, and possessed strongly the characteristic odour of the poison. It is also well known to chemists, that acid prepared from the ferro-cyanide of potassium, even when tolerably strong, will remain, when exposed to the diffuse light of day, unaltered for many months, nay, for more than two years.

English acid, of three per cent., commenced to act in about two minutes. Should twelve times as much, or five drachms, begin to operate in the one-twelfth of the time, or ten seconds? Within that period the acts of Judith Buswell could certainly be accomplished. A proportion not differing very materially from this may be found to exist. As to the smallest quantity capable of producing death in the case I have detailed, the quantity of real acid amounted to .7 of a grain, which was almost the same as that taken by the epileptics in the dreadful accident which occurred at one of the Parisian hospitals, and by which seven patients lost their lives. The case related in this paper illustrates very strongly the beneficial effects of ammonia or its carbonate, in consequence of its stimulant powers. Chlorine, which decomposes the poison, most probably also effects a good deal by its stimulant action. Chlorine water, the most manageable form in which this agent can be applied, is rarely at hand; at present, however, chloride of lime, or soda, is as likely to be easily procured as any other medicine, and either of these can be made to evolve its chlorine rapidly by the addition of vinegar, or any of the ordinary acids. Very possibly after the patient has been to a certain degree restored by the use of these antidotes, his recovery might be promoted by an emetic, and for this purpose the sulphate of zinc, mixed with some stimulant fluid, as wine, or brandy and water, would be most suitable, as less liable to produce depressing effects, than some other medicines of the same class.

I add a few particulars of the dissection of a case which terminated fatally:—A schoolmaster of Dublin purchased an ounce of the medicinal acid (Scheele's), and swallowed it. Next morning he was found dead. The stomach in particular exhaled strongly the smell of the poison. The only morbid appearance of note discovered, was a patch of dark-red extravasation under the mucous membrane of the stomach, near the pylorus; an appearance which seems to have been mistaken for gangrene, in a case related by Hufeland. This appearance I should conceive to be allied to the black warty extravasation observed in cases of irritant poisoning. The stomach exhaled the odour for three days, at the end of which time the poison was detected by the usual means.—(Condensed from the *Dublin Journal*, Nov., 1835.)

**DURATION OF PHTHISIS.**—Of 114 cases, observed by Louis, rather more than two-tenths died between the first and sixth months of the disease; four-tenths between the sixth and twelfth months; rather less than a fourth between the first and second years; and less than one-fifth between the second and twentieth.

## PULSATION IN VEINS OF THE ARMS.

By CHARLES BENSON, M.D., *Surgeon of the City of Dublin Hospital.*

MARY OLIVER, æt. 60, of middle stature, pale, and emaciated, was admitted into the above hospital on the 14th of August, 1835. She could only describe that "it was all about her heart." The following notes were taken as soon as she was placed in bed:—Incoherent, very restless, uneasy in every position; pulse 80, soft and regular; tongue clean; eyes clear; skin natural. On placing the fingers lightly over the apex of the heart, a sensation is communicated to them not unlike that which emphysema of the cellular tissue would occasion, but it is lost on the least increase of pressure. Resonance very dull over the whole of the precordial region; impulse considerable as high as the clavicles, and peculiarly strong in the epigastrium; a loud bellows murmur over all the region of the heart, sometimes with a rasping noise; the latter is best heard in the second sound, the former in the first; vesicular respiration every where distinct.

Aug. 15. She became comatose last night, and has not since spoken.

While feeling her pulse, I was struck with an appearance of pulsation in a vein on the back of the hand. Further examination showed a distinct pulsation in every superficial vein of the two upper extremities, but I could not feel it. Some of the pupils, however, assured me they felt it. The pulsation was isochronous with that of the radial artery, but a little later, following it after an interval of time, which, when carefully attended to, could be satisfactorily appreciated. I could learn very little of this woman's previous history, though I sent an intelligent pupil to her late residence. He could only ascertain that for the last six months she had suffered very much from palpitations and headaches; that she was often intoxicated, and had often received wounds on the head, and followed her usual occupation (selling fruit) until a few days before; and that she was a Scotchwoman.

In the evening I took ten ounces of blood from her arm, and was surprised to find that it did not come *per saltum*, although pulsation was observed in some of the veins below the bandage. The veins, after the bleeding, seemed much more diminished in size than I expected from the quantity of blood drawn off, and all pulsation had ceased! This last circumstance disappointed me, as some medical friends intended to visit her next morning. The blood-letting was decidedly useful to her; she was less stupid, and the heart's action was less tumultuous.