



LECTURE VIII.

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ENLARGEMENT BY DILATATION.

**Definition of Enlargement by Dilatation— Symptoms — Pathological Effects
— Physical Signs and Diagnosis—Summary — Treatment.**

GENTLEMEN : In this lecture, a condition of the heart nearly the opposite of that described in the last, namely, enlargement by dilatation, will be considered. I shall quote entire Flint's admirable description, because no words of mine could make it plainer. The treatment, however, is purely homoeopathic — not theoretical, but based on experience.

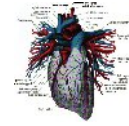
" Under this head are embraced, in addition to the rare cases of pure or simple dilatation, that is, those in which the capacity of the cavities is increased and the walls attenuated, all cases in which dilatation co-exists with, but predominates over hypertrophy. Of the two kinds of enlargement, this is by far the most frequently found after death when organic disease of the heart proves fatal. In the cases in which the heart attains to a very large size, dilatation almost invariably preponderates. The cases in which the organ, from its immense bulk, resembles a bullock's heart (*cor bovinum*) are those in which there exists great hypertrophy, with still greater dilatation. The degree of dilatation varies greatly in different cases, and the hypertrophy combined with it is also variable. The preponderance of dilatation, when the heart is examined after death, is generally sufficiently evident on inspection. The abnormal increase in the dimensions of the organ exceeds that of the weight. The ventricular walls collapse, and the organ, resting on its posterior surface, is flattened*, instead of preserving a globular form, as when hypertrophy predominates. The greater increase in width than in length, is marked in proportion to the preponderance of dilatation. Owing to this, the organ becomes wedge-shaped, and sometimes presents nearly a square form.

"The mechanism of dilatation is quite different from that of hypertrophy. In the production of the latter the process is vital, whereas in the former it is mechanical. Hypertrophy is a consequence of over-nutrition; dilatation is the result of the yielding of the walls of the heart to a distending force, the condition, however, which stands immediately in a causative relation to both is the same, viz., undue accumulation of blood within the cavities of the heart; hence it is that both take place either conjointly or in succession, so that hypertrophy and dilatation are very often associated. Dilatation, thus, not less than hypertrophy, depends on antecedent affections which occasion impediment to the



circulation through the vessels or the orifices of the heart, leading to over-accumulation of blood within the cavities. These antecedent affections are the same as in cases of predominant hypertrophy; and the several portions of the heart become affected singly and in succession, as in the latter form of enlargement. It is not necessary, therefore, in this connection, to consider the dilatation of these portions, respectively, in relation to the particular lesions of the valves and orifices and vessels on which dilatation and hypertrophy alike depend. Moreover, both dilatation and hypertrophy of the different portions of the heart will be referred to hereafter in treating of valvular lesions. It will suffice to inquire into the circumstances which determine the occurrence of dilatation in the place of, or, as is generally the case, in addition to, hypertrophy.

"The first effect of an undue accumulation of blood in the cavities of the heart, continued for a sufficient period, is increased power of muscular action and consequent hypertrophy in the great majority of cases. The hypertrophy is more or less progressive, but it has its limit. The abnormal growth of the muscular tissue ceases after it has progressed to a certain extent. But the morbid conditions inducing over-repletion of the cavities still remain, impeding more and more the circulation. The compensating increase of the muscular tissue no longer taking place, the walls of the cavities yield to the mechanical force of distension, and the progressive enlargement from this time onward is due to dilatation. The limit of hypertrophic enlargement varies in different persons. If the hypertrophy progress until the muscular walls attain to a great thickness, and life continue for a long period afterward, dilatation finally predominates, and the result is an enormous enlargement of the heart, a *cor bocinum*. But dilatation may commence after moderate or slight hypertrophy has taken place; in other words, the hypertrophy ceases after a smaller amount of muscular growth, and dilatation commences. Dilatation may even commence without any previous hypertrophy, and the result is, then, enlargement with attenuated walls, or simple dilatation, a rare variety of enlargement of the heart. The occurrence of dilatation is determined by the state of the muscular walls. Functional debility of the organ, and, still more, changes in the muscular fibres, prevent that vigorous activity which induces abnormal growth; and yielding of the walls takes place early, in proportion as the vital power of resistance is impaired. Anemia, the feebleness consequent on pericarditis and adherent pericardium, fatty degeneration, softening, and any changes which compromise the muscular power of the organ, tend to abridge hypertrophy and favor dilatation. The latter will therefore predominate in proportion as the condition of the walls is such that they early and readily yield to the distension caused by the accumulation of blood within the cavities. After this brief consideration of the circumstances determining the occurrence of dilatation, in addition to



the incidental remarks already made under the head of enlargement by hypertrophy, the reader will be able to trace the relations of dilatation affecting the different cavities of the heart, to lesions of the mitral and the aortic orifice, involving either obstruction or regurgitation, or both, and to obstructions affecting the pulmonary and systemic arterial systems at situations' more or less remote from the heart, without recapitulation of the account already given in connection with hypertrophy. The inquiry arises, Does not the heart, in some instances, become dilated in consequence of inherent weakness, no antecedent affections existing to occasion impediment to the circulation? It, is probable that this sometimes occurs as an effect of fatty degeneration, pericardial adhesions, atrophy or softening of the muscular fibres, etc. Examples are found of dilatation associated with these structural changes, and without other obvious sources of impediment to the circulation. These changes may be subsequent to dilatation, but it is reasonable to suppose that in some instances they precede and give rise to it. Clinical observation, however, furnishes no evidence that functional weakness alone leads to dilatation, irrespective of structural changes of the walls of the heart, or lesions of some kind which occasion impediment to the circulation. Dr. "W. T. Gairdner accounts for dilatation of the heart in cases of pulmonary emphysema, in the same way that he accounts for emphysema, namely, the cavities of the heart are dilated by the force of inspiration, as are the unobstructed air-cells in consequence of collapse of more or less of the pulmonary lobules. This author accounts in this way for, not only dilatation, but hypertrophy, the expansion of the thorax tending constantly to overload the heart, and thus occasioning increased muscular force. Without adopting .this explanation, it must be admitted that Dr. Gairdner bases his explanation on facts which have considerable weight. " Of 24 cases of enlargement without valvular lesions, in 21 cases there were manifest and extensive old atrophic lesions of the lungs, with or without accompanying emphysema, which is recorded as having existed in 17 of the cases." Dr. Gairdner also shows, by an analysis of fatal cases, that enlargement of the heart occurs oftener in emphysematous cases than in mixed cases, the proportion being as 15 to 23 per cent.; and that, of the cases occurring with emphysema, valvular lesions are present in a less proportion than in the mixed cases, the whole number of cases analyzed being 84. To show that contraction of the capillaries of the lungs from any cause, or obstructed circulation through these organs, will not give rise to enlargement of the heart, he analyzes 18 cases, in which effusion into the pleurae or peritoneum, or other causes, occasioned compression of the lungs for a considerable time, there being no valvular lesions. In only four-of these cases did enlargement exist, and in one case its existence was doubtful. On these data he bases the conclusion, that, while diseases of the lungs which merely obstruct or obliterate the



circulation in the capillaries, have no well-marked tendency to be associated with enlargement of the heart, those which produce atrophy of the pulmonary tissue, and secondarily emphysema, have an obvious influence on the heart, and frequently cause its enlargement.

SYMPTOMS AND PATHOLOGICAL EFFECTS OF DILATATION.

"The *symptoms* due to dilatation, like those of hypertrophy, are generally involved with those incident to valvular or other concomitant lesions. In proportion to the amount of dilatation, the muscular power of the heart is impaired. The symptoms distinctive of dilatation proceed from feebleness and incompleteness of the heart's action. The action of the heart is often irregular, as represented by irregularity of the pulse and of the apex-beats. Both are abnormally feeble. The pulse may be unequal as well as irregular. These symptoms are in relation to dilatation of the left ventricle. The patient experiences more or less uneasiness and undefinable distress, referable to the praecordia, but he is not conscious of that powerful action of the heart which characterizes hypertrophy. The extremities and surface of the body are cool. Lividity may be apparent on the prolabia, the tongue, face, and extremities. The veins, especially those of the neck, may be distended. These symptoms are more or less marked, in proportion as the dilatation affects the right ventricle. Dyspnoea will be prominent in proportion as the right ventricle is the seat of dilatation. The recumbent posture, with the head low, may be insupportable, and, in an advanced stage, the suffering from defective haematoses may amount to orthopnoea. Occurring in paroxysms, this difficulty of respiration has been called cardiac asthma. Exercise and mental excitement augment the symptoms, particularly the dyspnoea. More or less cough is usually present, with serous and sometimes sanguinolent expectoration. The abdominal viscera, as well as the lungs, are in a state of passive congestion. Owing to this state, the liver may become more or less enlarged, and may be found to augment rapidly in size when, from any cause, the circulation is temporarily embarrassed in an unusual degree, resuming its former dimensions when the paroxysm ends and the heart recovers its habitual strength.¹ The digestive functions are weakened, but nutrition may be sufficiently active; patients do not always emaciate. The urine is not abundant, and may be found slightly albuminous, which is due to renal congestion, and is not necessarily indicative of structural disease of the kidneys. Renal disease is, however, associated, in a certain proportion of cases, with dilatation as with hypertrophy. Finally, oedema occurs, first manifested in the

¹ Stokes on the Heart and Aorta.



lower extremities, thence extending over the body, and effusion into the serous cavities succeeds, constituting general dropsy.

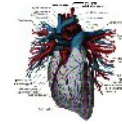
"This is an enumeration of the more important of the symptoms belonging to cases of enlargement in which dilatation predominates, but it is to be borne in mind that, in general, valvular or other lesions co-exist, which, after inducing more or less hypertrophy, have at length led to dilatation; and, under these circumstances, it is difficult to say to what extent the symptoms distinctive of this stage of the disease may not be due to the causes of the dilatation, in other words, to the concomitant lesions. But it is certain that much, if not chief importance is to be attached to the dilatation in the production of the symptomatic phenomena Which have been mentioned.

"The *pathological effects* of dilatation are, in a great measure, embraced in the foregoing account of the symptoms. The dilatation is the result of weakness of the cardiac walls, together with an accumulation of blood within the cavities; and, on the other hand, it is the cause of further diminution of the power of the heart's action, and consequent overrepletion. It has, therefore, an intrinsic tendency to increase. The evils incident to enlargement are mostly referable to dilatation. Little or no inconvenience is felt so long as the heart is hypertrophied, and the capacity of its cavities not increased. But in proportion as the latter takes place, the quantity of blood to be propelled from the cavities is greater, and the ability of the muscular walls to contract sufficiently is lessened; hence, inadequacy of the motive power of the central organ to carry on the circulation. This inadequacy increases in more than an arithmetical ratio as the dilatation progresses. The immediate effect on the vascular system is passive congestion, arising, not alone from the defective propelling power of the heart, but from the obstacle presented to the return of blood to this organ by the accumulation within its cavities. The ulterior effects dependent on congestion are: embarrassment of the functions of the important organs of the body; serous transudation, or dropsy; and, occasionally, haemorrhage. An occasional effect of great dilatation, conjoined with extreme feebleness of the heart's action, is the formation of coagula within the cavities of the heart. There is reason to believe, that in some instances in which the accumulation is excessive, and the contraction of the walls extremely feeble, the blood coagulates during life, and proves the immediate cause of a fatal termination. An unusual accumulation of blood, from any cause, in either the right or the left ventricle, when it is much weakened by dilatation, may occasion paralysis of the walls by distension, and thus produce sudden death.

PHYSICAL SIGNS DISTINCTIVE OF ENLARGEMENT BY DILATATION.



"The physical signs of enlargement of the heart have been already fully considered. The signs distinctive of dilatation are now to be noticed. The several methods of exploration which furnish evidence of enlargement, contribute signs pointing to dilatation in distinction from hypertrophy. The evidence obtained from percussion relates to the form of the area, of deep dullness. If the boundaries of the heart be delineated on the chest by means of percussion, the transverse dimension of the area exceeds the vertical in proportion as dilatation predominates over hypertrophy. This corresponds to the difference as regards the form of the heart, which has been stated. The outline which the heart presents is wedge-shaped or nearly square if the dilatation be excessive. Palpation furnishes negative characters more readily available and striking. The powerful apex-beat of hypertrophy is wanting; also the elevation of the ribs and the heaving of the praecordia. The impulse of the apex is feeble, and may be suppressed. The movements of the organ, owing to the extended space in which it is in contact with the thoracic walls, are sometimes obscurely felt, and oftener visible in two, three, four, or even more intercostal spaces, which together present an appearance of fluctuation, or, as called by Walshe, quasi undulation. In some cases, in which the thoracic walls are thin, and the intercostal spaces wide, the heart seems to be almost exposed to the vision and touch. Auscultation furnishes certain distinctive points pertaining to the heart-sounds. Both sounds are feeble in comparison with their augmented intensity in cases of hypertrophy, but the first sound is disproportionately weakened. The first sound is also altered in character; it becomes short and valvular, resembling in these respects the second sound. The latter alterations, although distinctive of dilatation as contrasted with hypertrophy, are not peculiar to the former, and their true explanation has not been understood. They are due to the impairment or absence of the element of impulsion in the first sound. This element is deficient or wanting whenever the left ventricle lacks the muscular power necessary for its production. In hypertrophy this element is intensified, owing to the increased force of the ventricular contractions; and in dilatation it is feeble or absent, owing to the feebleness which, at the same time, renders the apex-beat weak or inappreciable. But this element is also impaired or absent when, from other causes than dilatation, the muscular power of the heart is weakened. The intensity of the first sound is diminished disproportionately to that of the second sound, and it is also short and valvular like the second sound, in cases of fatty degeneration, and of softening in typhus fever, and of pericarditis with effusion. The valvular element predominates, or is alone present, in consequence of the feebleness or absence of the element of impulsion. But the intensity of the valvular element is also more or less diminished, in the first place, in consequence of the weakness of the ventricular contractions, and in the second place, because at the time when the ventricular contractions take



place, the quantity of blood within the ventricles is large, causing closure of the auriculoventricular valves.

"In the diagnosis of Enlargement by dilatation, assuming the fact of enlargement to have been ascertained, symptoms (as distinguished from signs) have considerable weight. Passive congestions, lividity, feeble pulse, and dropsical effusion, in fact, constitute evidence almost, if not quite conclusive. The obstruction due to the valvular lesions which are so generally associated with enlargement, it is true, contributes toward the production of these symptoms ; but, , as will be seen when valvular lesions are considered, the obstruction due to these rarely, if ever, gives rise to the effects just mentioned until dilatation of the cavities of the heart has taken place. With the aid of the physical signs, the discrimination between predominant dilatation and predominant hypertrophy may generally be made with confidence. The differential diagnosis is of importance with reference to prognosis and treatment. The prospect of life and tolerable health is less in proportion as dilatation predominates, and the management involves attention to incidental events which do not occur as long as hypertrophy predominates. For the convenience of comparison with the physical signs distinctive of hypertrophy (see page 149), the signs distinctive of dilatation are embraced in the following summary :

SUMMARY OF THE PHYSICAL SIGNS DISTINCTIVE OF ENLARGEMENT BY DILATATION.

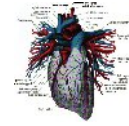
"1: *Percussion*.—The transverse dimensions of the space occupied by the heart greatly exceeding the vertical, the form of this space corresponding to the wedge-like or square form of the organ when the dilatation is excessive,

"2. *Palpation*.—The apex-beat devoid of abnormal force, and in some instances suppressed. Absence of heaving movement of the ribs and praecordia.

" 3. *Auscultation*.—The element of impulsion of the first sound deficient or absent, and the sound short and valvular; in these respects resembling the second sound."

TREATMENT OF DILATATION.

The indications for the treatment of enlargement by dilatation in some respects does not differ from the treatment of predominant hypertrophy. In other and important respects, however, the treatment materially differs.



You cannot remove the impediment to the circulation which co-exists in the great majority of cases, but the effects may be mitigated, if you have your patients avoid the extrinsic causes which excite unduly the action of the heart.

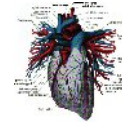
In the dark days of the history of medicine, incalculable evil was done, under the impression that the mass of blood must be diminished. Bloodletting was resorted to, giving temporary relief, but ending most disastrously, by causing anemia and muscular atony, accompanied with excessive cardiac irritability. The same effect was produced by drenching patients with saline drugs, or the use of exhausting cathartics. When these were abandoned, the allopathic school resorted to large doses of *aconite*, *antimony*, and similar exhausting remedies, which only made the disease worse, by weakening the nervous and muscular power of the heart.

Before speaking of medicinal agents, I will give you the general rules which you should try to make your patients adopt. Excessive muscular exercise, mental excitement, or anything calculated to excite unduly the action of the heart, should be avoided.

The great end of the treatment, remember, is to *increase the muscular power of the heart*. The diet, therefore, should be as highly nutritious as possible, and the quantity of liquid ingesta as small as is compatible with comfort. A diet of solid, easily-digestible, animal food, with a careful admixture of nutritious vegetables, should be advised. At the same time advise the patient to avoid any articles that appear to digest with difficulty.

Indigestion, constipation, hepatic torpor, or inactivity of the lungs, must be removed as soon as discovered, and carefully guarded against. The mental condition of your patient will have much to do with his condition. Depression of spirits tend to aggravate the disease. You must encourage as much as possible, in order to prevent the gloomy forebodings which annoy and depress. You can do' this conscientiously, for in the majority of cases under your care, you can safely encourage hope, not of a complete cure, perhaps, but of tolerable health for an indefinite period. The common notion that disease of the heart ends in sudden death is erroneous, and you should strive by the most positive assurances to remove this idea from the minds of your patients.

The *medicines* most useful in the treatment of dilatation have already been enumerated under the head of Enlargement by Hypertrophy. This, at-first thought, may seem strange ; but when you remember that all medicines have a double pathogenetic action, you can readily see that



they will prove curative in opposite pathological conditions. You will observe this in the provings of all medicines, and also from the fact that a medicine is recommended for constipation and diarrhoea, spasm and paralysis, irritation and torpor.

I will, therefore, recapitulate the same classes I gave you in the previous lecture, but with the appropriate indications :

Class I. Includes medicines whose primary effect is to depress and weaken the muscular and nervous power of the heart, and give rise to conditions which would tend to cause dilatation; but whose secondary effects are similar to those conditions described in the last lecture.

All the truly representative men of the allopathic and eclectic schools now recognize the fact, that *small doses of depressing medicines act as tonics to the tissues they primarily depress*. In proof of this I refer you to the recent writings of Dr. J. R. Reynolds, Handfield Jones, Trousseau, Brown Sequard, Flint,- Scudder, King, and others. This is an affirmation of the theory promulgated by Hahnemann, and which forms the basis on which rests our important and universal Law of Cure. The Law of Dose, which I have taught you in my lectures when occupying the chair of Materia Medica, is, however, equally important, for without it, the selection of the dose is a matter of great uncertainty.

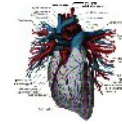
The medicines of this class, then, which primarily depress the heart's vitality, are especially indicated in the treatment of *dilatation*, and its co-existing debility of the structure of the heart. They are :

Aconite, veratrum album, veratrum viride, gelseminum, tartar emetic, colchicum, lobelia, and tabacum.

While I advised you to use these remedies in the lowest attenuations or mother tincture, in concentric hypertrophy when there is an abnormal increase of power, I now advise you to use these medicines in high attenuations, for the reason heretofore given, that the *smallest possible doses should be given when we are treating symptoms similar to the primary effects of medicines*.

The two most prominent physicians² of the opposite schools *almost* recognize this rule, for they prescribe the above medicines in the following manner, namely, ten or twenty drops of the tincture in four or eight ounces of water; a teaspoonful every three or four hours.

² J. RuBsell Reynolds and Souder.



Leaving you to select each medicine in accordance with its characteristic symptoms, I advise you to give the attenuations from the 3rd to the 3000th. After you have chosen the appropriate remedy, do not change too soon, but continue its use until you are satisfied with the improvement, or are sure it is not causing the wished for amendment.

I am not favorable to the alternation of remedies, as a general practice, but I have so often seen beneficial results follow the alternation of remedies belonging to Class I. with those belonging to Class III., that I have no hesitation in advising the practice.

I will only give a few of the most characteristic symptoms of these medicines-:

Aconite: pulse irregular, quick, weak, thready, and small; feeble and incomplete action of the heart; the pulse and heart-beats do not agree; coldness of the extremities, numbness and tingling of the cold extremities; great anxiety and fear of death accompany the attacks of palpitation (dilatation of left ventricle.)

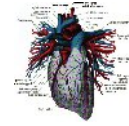
Veratrum album: pulse very small, almost imperceptible; intermittent; heart's action feeble, irritable; palpitations, with distressing dyspnoea; cold face, with cold sweat on the face and forehead; cold and livid hands and feet, with tendency to cramps in extremities. No *fear* of death, or great anxiety, as from aconite, although the patient may think death is near (dilatation of right ventricle).

Veratrum viride: pulse soft, feeble, but very slow, hesitating, or intermittent; excessive irritability of the heart, so that the slightest motion in bed, or sitting up, causes faintness, vertigo, and blindness; pale face, but not the excessive coldness of *verat. alb.*; indifference, no fear of death.

Gelseminum: pulse soft, slow, almost absent; heart's action very feeble, slow, almost imperceptible; *fear of any movement, lest the heart should stop beating*;³ veins of the neck distended; extremities not cold, but apparently swollen from venous turgescence, slightly livid ; indifference; obtuseness ; difficulty of lifting the upper eyelids, dimness of sight; heaviness and weariness of the limbs; palpitations feeble, (dilatation of left ventricle.)

Tartar emetic: pulse small, thready, irregular, feeble; heart's action feeble and irregular; dyspnoea of a very severe character, with cough and

³ A very characteristic symptom, just the opposite of all other medicines.



frothy expectoration; congestion of the lungs; cannot lie down; enlargement of the liver; jaundice; attacks of vomiting; (dilatation of right ventricle, with cardiac asthma.)

Sanguinaria: for nearly the same symptoms, except that the expectoration is bloody.

Colchicum: pulse and heart's action feeble; urine scanty and albuminous; tendency to dropsy, beginning with oedema of the feet, then extending upward. .

Lobelia: pulse small, feeble, and irregular; heart's action irregular and weak, aggravated by the slightest exertion; *distressing sinking sensation at pit of stomach*, attended with agonizing attacks of dyspnoea; anxiety, and fear of death; cold face and extremities; cough, with serous expectoration; (dilatation of right ventricle.)

Tabacum : for nearly the same symptoms as *lobelia*, but with vertigo, and sensation of *shocks in the heart*, with feeble distressing palpitations.

Class II. contains medicines which act in a manner directly the *reverse* of Class I., *i. e.*, their primary action is *similar* to (not identical with) the secondary effects of the latter. I have explained to you this primary action of *digitalis* and its analogues, and described the condition of the heart from their ultimate primary action. Their secondary effects on the heart are *weakness, irritability, and even paralysis*. I believe their long-continued pathogenetic effects would result in dilatation of the heart. They are among our very best remedies in that condition; but in order to get prompt, palliative, and curative effects, you will have to give appreciable doses, not going higher than the *third* decimal dilutions, even for infants. You will often get the best effects from the mother tinctures, or the aqueous infusions. These medicines, you will remember, are: *digitalis, cactus, hydrocyanic acid, primus vir., primus laurocerasus, amygdalus per ska, and lycopus.*

Digitalis. In the spring of 1867, I read a paper on the action of *digitalis* before the Illinois State Horn. Med. Society, which paper was afterwards published in the third volume of the *United States Medical and Surg. Journal*. To this paper I would refer you if you wish all the necessary proofs as to the *tonic* effects of *digitalis* in cardiac debility. The primary action of *digitalis* is quite transient. For this reason you will find its sphere of action in sthenic diseases much more limited than in the asthenic; in a weak condition of the heart oftener than in inflammations or concentric hypertrophy. It is indicated in all the varieties of hypertrophy with *dilatation*, whatever the cause may be, or any condition



of the heart where its muscular power is especially deficient. This is directly contrary to the teachings of nearly all authorities up to a few years ago. Prof. Tully, however, was a notable exception. He boldly placed it among his "*antisbestic*," or exhaustion-opposing medicines, and asserts that he has given it for *years* to the same patient without any other than excellent effects. He used it freely in cases of hypertrophy, but it is evident, from his description, that they were cases of dilatation. Of late years, the best practitioners of the allopathic school use it without fear in cases of dilatation, even in large doses. I will quote to you from Flint, who is evidently an unbiassed witness. He says, " As a remedy, with reference to irregularity of the heart's action incident to dilatation, *digitalis* often manifests a truly remarkable efficacy. Of the different preparations the tincture is to be preferred, on account of its being more reliable as regards strength. *Digitaline*, however, has still . more this advantage, and is perhaps entitled to preference." Alluding to the conflicting opinions relative to its action, he says, " Without discussing these different opinions, it may be assumed that, given in small or moderate doses, for example, from ten to thirty drops of the tincture, it cannot, under any circumstances, have much potency to do harm, and it cannot prove a dangerous remedy. That it renders the action of the heart slower and more regular is undeniable. With reference to these effects, Bouillard calls it " the opium of the heart. That it produces these effects without weakening the heart may be assumed; and clinical observation appears to show that, under its use, the heart, already weakened by dilatation, acts with increased strength. With these views, it is a remedy useful in cases both of hypertrophy and of dilatation." Flint does not say how often his thirty-drop doses should be repeated, but I assure you that if they were repeated every two or three hours in a case of hypertrophy with enlargement, they would cause dangerous cardiac spasms, while in dilatation no such dangerous results would follow, although no such large doses are admissible, except in sudden cardiac syncope, and similar emergencies. I have found that doses of one, two, or five drops of the first dilution, repeated every two or three hours, acted well in children or sensitive adults, but the mother tincture in similar doses may be required. In cases of dilatation, give the *digitalis* until it causes the requisite *slowness*, strength, and regularity, even if you have to increase the dose to Flint's standard to bring about that result.

I do not speak from mere theory in this matter, but from much practical experience, which experience I have found to substantiate my theory of dose.

There is another fact relating to the use of *digitalis* in dilatation. This condition will, as you are aware, cause various pathological conditions in other important organs the brain, lungs, liver, and kidneys. Dilatation



causes passive congestion, with consequent torpor of function in all these and other organs. Therefore, in cerebral, pulmonary, hepatic, and renal troubles; in vertigo, apoplexy, cough, haemoptysis, jaundice, enlargement of the liver, dropsy, etc., you should always ascertain if cardiac debility is not at the bottom of the trouble. If you find this to be the case, *digitalis* is the *chief* remedy always. As for *characteristic symptoms* whereby to select this remedy, I must say that they appear to me of less value than a knowledge of *the* pathological condition of the heart and its consequences I have just delineated- If you consult any work for *symptoms* go to the *Symptomen Codex*, but even there you will find the indications unsatisfactory. Neither Lippe nor Gross give any indications of value for *digitalis* in cardiac disease. If I were to name any group of *symptoms* indicating its use in dilatation, these would have the preference: quick, weak, irregular., 'Or intermittent pulse; increased or deficient *action* of the heart, with**deficient force* or impulse; cough, haemoptysis, jaundice, alternate scanty and profuse urine, sometimes albuminous; oedema of the feet, legs, face, and scrotum, ending in general anasarca; sighing respiration, with sinking, weak feeling at pit of stomach; and sometimes vertigo and amaurosis.

I shall allude to *digitalis* again in the treatment of valvular diseases.

Digitalin is sometimes more efficacious in dilatation than the tincture. I allude to the *digitalin* of Quevenne, the only preparation of any value. It occurs in pale straw-colored scales, or a white powder, and is inodorous and extremely bitter. The triturations should always be made on the centesimal scale. You will get the best effects from the 1st to 3rd triturations, of which a grain may be given every three hours.

Hydrocyanic acid is the nearest analogue of *digitalis*, but it acts with greater intensity and rapidity. The primary action of this poison I have already given you. Its secondary action does not materially differ from that of *digitalis*. After the primary effects have passed away, the heart becomes weak, flaccid, and subject to irregular action and severe pains, which I think are myalgic. These symptoms make it indicated in dilatation with asthmatic troubles, and attacks of angina pectoris. The provings have " tightness of the chest; feeling of suffocation, with torturing pains in the chest; sticking in left side of chest, and pain and pressure in the region of the heart; irregularity, with feeble beating of the heart." You must be exceedingly cautious in prescribing the dilutions. The 1st decimal dilution cannot be taken in doses of one drop frequently repeated, without causing, in sensitive persons, unpleasant symptoms; but you can put 10 or 16 drops in half a glass of water, of which a teaspoonful may be taken every two or three hours. Its use should be suspended, or the doses given at longer intervals, as soon as the action



of the heart becomes stronger and more regular. The 3rd dilution may be given in drop doses. But when this acid is indicated, there are agents which contain it and other additional medicinal constituents, making them of greater value in the treatment of cardiac affections. The best of these is the:

Prunus virginiana (wild cherry) which contains a principle which possesses *tonic* properties, similar to *china* and *hydrastis*. This property is also possessed, in a greater degree, by the *cerasus serotina* (choke cherry).

We have no provings of these remedies, but their successful use for nearly a century, has given us clinical experience sufficient to give us reliable data.

I can give you no better indications than those of *digitalis*, to which can be added "weakness, loss of appetite, *slow digestion*, cough, *tightness and constriction of (the chest, and a fullness and pressure in the head.*" The symptoms in italics I have often observed to arise from large doses of the infusion of the bark of these trees. You can use a hydro-alcoholic tincture of the fresh bark in drop doses, or the lowest dilutions, or the syrup, or the cold infusion, made by digesting or percolating one ounce of the fresh, or dry inner bark in a quart of water, until it assumes a dark red color. This may be given in table-spoonful or wine-glassful doses, repeated every three or six hours. Those who are sticklers for the high dilutions may object to this method of prescribing a medicine, but I cannot see the necessity of adhering to any one method of preparing our remedies. If a medicine is homoeopathic to the disease, it matters not in what form we give it, if the doses are not large enough to cause pathogenetic symptoms. Your object should be to cure your patient in the quickest manner, regardless of peculiar notions relating to arbitrary pharmaceutical preparations.

The leaves, pits, or inner bark of the *amygdalus persica* (peach) is much stronger in prussic acid, and may be used in infusion or hydro-alcoholic tincture, but in one-half or one-third the quantity recommended for *prunus*.

The *amygdala amara* (bitter almond) is still more powerful. This medicine, as well as the pit of the peach, may be prepared in triturations, and used in the 1st. In cases of hypertrophy with dilatation I have known a few bitter almonds eaten before and after meals prevent the palpitations which are apt to occur after eating.



Lycopus virginicus is likely to prove one of our best remedies in dilatation. If you will refer to the provings and clinical experience recorded in "New Remedies," you will see that its sphere of action is evidently that of a cardiac sedative and tonic. It is useful in dilatation associated with and causing pulmonary troubles, such as congestion, haemoptysis, cough, and dyspnoea. You can prescribe it in the tincture or lowest dilutions, or an infusion of half an ounce of the leaves to eight ounces of hot water. Of this a teaspoonful may be given every two or four hours.

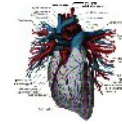
Ferro-cyanuret of potash has lately been introduced into practice as a remedy for hypertrophy, as well as for functional disorders of the heart. This double salt is of a yellowish color, and quite innocuous when compared with the *cyanide of potash*, with which you should be careful not to confound it.

Dr. Ray, in a recent paper, speaks very highly of its use, and gives several clinical cases in which he prescribed it with excellent results. The symptoms which he removed with it were: *palpitation, ringing in the ears, vertigo, intermittent pulse, waking with a sense of suffocation, palpitation disturbing sleep at night, improvement in the open air*. Some of the cases were doubtless purely functional, others apparently structural.

You will doubtless find it especially useful in those cases which seem to require *iron* and *digitalis*. This meets the indication for both, and may be given in grain doses of the 1st decimal trituration, repeated every few hours. It is peculiarly suitable in those cases of dilatation aggravated by venereal excesses. In doses of 10 or 15 grains every five hours it soon destroys all sexual desire and power, (while its use is continued) and arrests the cardiac irritation.

We next come to the remedies of Class III., namely: *nux vomica, ignatia, collinsonia, cimicifuga, china, hydrastis, ferrum, cuprum, hypophosphite of potassa, phosphoric acid, sulphuric acid, muriatic acid*, etc.

Nux vomica, and its alkaloid, *strychnia*, are the most important of this class. By referring to your notes on the treatment of hypertrophy with enlargement, you will find *nux vomica* recommended for its primary symptoms. Allusion was made to its secondary effects, which are very profound and important. The reaction from the intense stimulation (primary) induces a condition of nervous and muscular irritability in proportion to the weakness which obtains in the nerve centres. To make matters worse, all the important organs of the body partake of the prostration and loss of tone. The liver, stomach, intestinal canal, renal



and, sexual organs, and even the brain, become the seat of morbid irritability and perverted function.

I will not attempt here to give you all the symptoms which indicate its use in hypertrophy with dilatation. They are too numerous for me to mention and for you to remember. Suffice it to say, that the general mental and physical condition, the weakness and irritability of the heart, the aggravations after meals and from emotions, and the dyspeptic symptoms, must be your guide. First be sure of your diagnosis, then consult the *Symptomen Codex*, or the excellent *materia medica* cards of Prof. Hoyne, and prescribe for the *ensemble* of the symptoms.

The dose of *nux vomica* is quite important. As a rule, the lowest dilutions or triturations will give you the best results. The 1st or 2nd decimal dilution, or trituration, one drop or one grain every three or six hours, will, in a few days or weeks, produce a notable curative result.

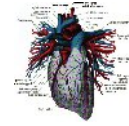
Strychnia will sometimes give better satisfaction than the *nux vomica*, especially when there is a preponderance of symptoms denoting spinal exhaustion, and a general tendency to paralysis of muscular power and torpor of function. Use the *centesimal* triturations, from the 1st to the 3rd.

Ignatia, while it resembles *nux vomica* in some respects, has important symptomatic differences. It is more suitable for women; for the hysterical condition; for irregular manifestations of a spasmodic character; and for the effects of grief. A characteristic symptom which is a valuable guide is the "sensation of great weakness and sinking in the stomach." This feeling oftener proceeds from cardiac weakness than any other cause.

Dose: the same as *nux vomica*.

Collinsonia is certainly of considerable value in this disease. While it does not appear to me to act on the nerve-centres like *nux vomica*, it resembles that remedy closely in its action on the vegetative system, and the various organs of the body. Dr. Squire thinks⁴ we have no remedy superior to it in chronic functional or structural diseases of the heart. He asserts that he has given it in nearly one hundred cases of cardiac trouble, and that it has not failed to give relief in a single case. In one patient suffering with hypertrophy, the irregular action of the heart ceased in a few days, and in three months he was discharged cured. The

⁴ Eclectic Medical Journal, Vol. 1871, page 207.



doses used in these cases were 15 drops of the fluid extract three or four times a day. He remarks that, "*larger* doses did not have the desired effect, "which shows that pathogenetic aggravations were present in some degree.

The 1st dilution, or drop doses of the tincture, may be prescribed. Consult the provings and account of its cures in "New Remedies," for further indications.

Cimicifuga, from its well-known action on the muscular and nervous system, will doubtless often aid you in the treatment of hypertrophy with dilatation. It is *the* remedy, *par excellence*, for the palliation and cure of *myalgia*. It occupies a place between *nux* and *china*, partaking of the characters of both. It does not seem to affect the functions of the vegetative system so much as the nerves of motion and sensation. All weakened muscles become irritable, painful, and subject to spasmodic movements. *Cimicifuga* controls this condition, and restores the normal tone of the nerves which supply the muscles. Chorea is sometimes associated with cardiac debility; even the movements of the heart may partake of that character. In such cases, no remedy rivals *cimicifuga*. If the disease is a sequel of muscular rheumatism, this medicine is especially indicated. In dilatation during pregnancy, or at the critical age, no remedy will prove more useful. If sympathetic cerebral symptoms occur, *cimicifuga* will be finely indicated.

Dose: the dilutions from 1st to 3rd, or the lowest triturations of *cimicifugin (macrotiri)*, its active principle. Do not leave off its use too soon, or change the remedy until you are sure it is not appropriate.

Agaricus should be consulted if *cimicifuga* seems indicated but does not give satisfaction.

China, or its alkaloid, *quinine*, has already been spoken of. While you will rarely have to use it in enlargement, you will frequently find it invaluable in dilatation. It is especially useful if the disease is associated with, or produced by malaria, loss of the vital fluids, long-continued night watching, or deficient food. The action of the heart may be very tumultuous, while the real force is weak; the blood is poor, and deficient in quantity; the countenance sallow; digestion impaired, with tendency to flatulence; there is ringing in the ears, vertigo, and night sweats.

Hydrastis, or the active principle, *hydrastis*, ranks next in importance. As a restorer of the tone of muscular tissue it is not surpassed. It is indicated in those cases which do not arise from malaria, but which appear to indicate *china*; also for those cases where the action of the



heart is persistently weak and excited, and where the patient is emaciated, is troubled with indigestion, and the liver is also deranged. Its persevering use will bring about permanent good results.

Dose: the lowest dilutions of *hydrastis*, or triturations of *hydrastin*.

Ferrum. All the preparations of iron are indicated in dilatation, especially if it co-exist with anemia. In selecting the preparation, the idiosyncrasies of your patient must be taken into account, as well & the bodily constitution. *Ferrum metallicum* or *ferrum carb.* are indicated in uncomplicated cases. If fatty degeneration of the heart is suspected, use *ferrum iod.* If dyspeptic symptoms predominate, try the *lactate of iron*, or the double salt of *iron* and *strychnine*. Certain cases will require the *phosphate of iron*, and others improve rapidly under the *Unct. ferr. muriaticum* in the low dilutions. The dose of the ferruginous preparations may range from the 1st to the 6th.

Cuprum, according to Grauvogl, will cure some diseases associated with anemia when *iron* fails. For dilatation with fatty degeneration it appears to be decidedly indicated.

The *hypophosphite of potassa* is a favorite remedy with me in all heart affections with muscular atony or myalgia. All the potash salts appear to have an affinity for muscular tissue, and none more so than this. If the patient has been prostrated by excesses, loss of fluids, loss of sleep, mental labor, and is emaciated, use this salt in doses of $\frac{1}{2}$ to $\frac{1}{4}$ grain three times a day; alternate with *hydrastis*, *nux vomica*, or *collinsonia*, and the results will be very satisfactory.

The *mineral acids* have not been used as often or as thoroughly in cardiac affections with debility, as their merits demand. The *phosphoric acid* is unrivalled as a remedy when indicated by the general symptoms of the patient. *Sulphuric acid* has enabled me to relieve and prolong the life of several patients suffering with dilatation, co-existing with B right's disease. Not only did the heart's action improve under its use, but the renal disease was decidedly benefitted, the dropsical symptoms disappeared, and the appetite and strength returned in a short time.

Muriatic acid will prove a valuable remedy in your hands. Study the provings well, and the clinical indications, and select accordingly. In prescribing these acids, insist on the aqueous dilutions, from the 1st to 3rd, sufficient to render the water slightly acid, and repeat the dose four or five times a day.



The remedies of Class IV., namely, *belladonna*, *solanum*, *lachenanthes*, *glonoina*, *stramonium*, *agaricus*, *cethusa*, *conium*, etc., will be found useful as palliatives when paroxysms of obstinate palpitations, attended by local congestions, occur. In the so-called cardiac apoplexy they are useful medicines.

I cannot give you the indications for all these remedies. You must be guided by their characteristic symptoms and pathological effects. You will find that the middle dilutions (6th to 30th) will give the best results.

Do not forget the anti-psoric remedies while treating dilatation, for they will prove of service to you in combatting lurking miasms, and arousing the dormant energies of the organism.

The *stillingia* and *chimaphila* are very important antipsoric remedies, as well as those introduced by Hahnemann. All this class should be used in the middle or higher attenuations.