peristalsis and tubal colic. No changes can be noted in the musculature of the tubes, nor does the high lens indicate any pathology in the perisalpinx. Any pathologic changes under the eye or lens is to be found in the endosalpinx. The mucous membrane of the tube is swollen, a little edematous and is so luxuriant and abundant that it quite fills the lumen. In good sunlight under the lens it lies in folded wrinkles, not so uniform as it does in the general tube.

The tubal plicæ do not lie in distinct parallel folds, but such parallel folds are broken by whorls encircling depressions in the ampulla; such depressions lie as usual on the side of the tube not covered by the peritoneum. The depressions or pits appear to be embryologic attempts at the formation of accessory tubal ostia; for the bottom of the pit is generally only covered by peritoneum and where the tube is not covered by peritoneum the wall is made of slight muscular layers and connective tissue. These pits or whorls lying in the ampulla are in my opinion ample explanations for ectopic pregnancy.

The ovum falls in one of these depressions and there is no particular force to dislodge it as the muscular is deficient, so that peristaltis will fail to forward the ovum toward the uterus. Some of the tubal plicæ are one-quarter of an inch long. In this tube the abdominal ostium is very peculiar. The tube appeared to attempt to form a double abdominal ostium but the septum between the two abdominal ostia failed to grow or atrophied, and there is presented in this case a large irregular ostium having abnormally abundant and luxuriant folds of tubal plicæ.

The abdominal ostium is one and one-half inches across. The lens shows no break or ulceration in the endosalpinx; it is simply in the mild early stage of endosalpingitis. In this case the tubal plicæ of the endosalpinx are so luxuriant, abundant and swollen that the tubal lumen was well filled and fluids would be difficult to force through.

To force fluids through at the menstrual time would require considerable peristalsis which often amounted to tubal colic or pre-menstrual pain in her case. The ovaries were about normal, but I would call attention to the fact that there is a distinct corpus luteum in one ovary one-half inch across. But observe that she never had an abortion nor a child. The conclusions are just what I found several years ago by investigating animals, i. e., that the corpus luteum is no sign of pregnancy, and its elevation to any legal significance in courts of justice is a relic of false so-called authority.

The parovarium was normal except the dilatation of one of Kobelt's tubes to the size of a pea. Gartner's duct and the tubules were normal. The vermiform appendix was in a catarrhal condition. The mouths of its swollen glands were enlarged, red and had too much secretion. It had several ulcers on its surface which were quite plain under the lens; some of the ulcers had denuded the epithelium and some were secreting gray slimy mucus. No doubt this was an appendix which had recurrent attacks of catarrh; in fact it had an attack as often as some irritating substance entered the valve of Gerlach and irritated until it became expelled.

(To be Continued.)

Blank Applications for membership in the Association at the JOURNAL office.

ACUTE ENDOCARDITIS IN CHILDREN.

Read in the Section on Diseases of Children, at the Forty-fourth Annual Meeting of the American Medical Association.

BY GEORGE N. HIGHLEY, M.D.

CONSHOHOCKEN, PA.

ETIOLOGY.

From a practical point of view, we can not look upon acute endocarditis as an idiopathic disease; if it ever occurs as such, it has been so rarely recognized that its existence in that form seems more than doubtful. Causes like cold, etc., which seem so prolific in producing inflammation of other similar structures,—as for instance the other serous and the mucous membranes—apparently have little direct influence in setting up inflammation of the inner lining of the heart. This immunity may be due to its situation, but it is difficult to assign a cause for it. This escape from primary affection is more than counter-balanced by the frequency with which the membrane is affected through the agency of other diseases—due wholly to the pathologic condition of the blood which those diseases create.

The pathologic state which we call rheumatism is responsible for the largest number of cases of endocarditis. In the acute rheumatism of childhood it is almost always present, though frequently overlooked. This fact should be well borne in mind, and all cases of rheumatism treated with the idea that in that affection the endocardium is as prone to inflammation as are the membranes of the joints. A great many permanently damaged hearts have been found long after an attack of rheumatism, in which at the time there were no special cardiac symptoms. The principal predisposing cause of rheumatism is undoubtedly the incomplete oxidation of metabolic products—the suboxidized proteids being particularly prominent in this respect. With the blood charged with these materials, the body first over-heated and then exposed suddenly to cold (air or water), and rheumatism is the natural result. The so-called heredity of affections like this, means that habits of the body, as a whole, and of its different parts (the various organs and perhaps the individual cells) have been transmitted from parent to offspring; similar causes and conditions produce like effects.

Next in importance to rheumatism, is the consideration of the cause of endocarditis. Scarlet fever is a disease from which few children escape being attacked before they reach maturity and from which, too, hundreds and thousands annually lose their lives; many times that number suffer irreparable injury from its virulent virus. It is likely that nearly as many cases of endocarditis have originated in scarlet fever as in rheumatism.

Diphtheria, variola, pyemia, puerperal fever, and all other diseases in which the blood is contaminated with a morbid poison, may produce the disease under consideration. Alteration of the chemic or physiologic state of the blood is its chief causal factor—the pathologic condition existing in acute rheumatism being particularly active in this respect. This, however, but brings us back a step in our search for the source of the malady, and a much more difficult question then confronts us, viz.: what are the causes of the antecedent diseases? Not to enter too deeply into this broad inquiry, which would be foreign to the purpose of this paper, I will,

nevertheless, ask for a brief consideration of the cause of the two affections with which acute endocarditis is so frequently associated, viz.: rheumatism and scarlatina.

In these days, when germs and disease are so constantly associated in the minds of medical men in the relation of cause and effect, it is but natural to find a microorganism assigned as the sole cause of each and every disorder of the body. Alleged discoveries are frequently put forth in support of this claim, so that now most of the diseases have had special organisms discovered, to which it is believed they owe their existence.

Now while our bacteriologic Uhlans are welcome to this belief, if to them it is self-satisfying and sufficient, it is to be hoped that the great body of practitioners—those who meet disease at the bedside and not in the laboratory—will at least withhold their judgment until more positive evidence is adduced. For upon the opinion thus formed will depend, in a large measure, the treatment to be pursued.

In the light of present knowledge it seems most reasonable to believe that the zymotic diseases—malarial fevers, smallpox, scarlet fever, etc., have a microbic origin, but that most of the inflammatory affections,—as for instance rheumatism, pneumonia, peritonitis, etc., do not arise in that way. (I am speaking of the primary forms of these diseases.) This latter class of affections so often follows exposure to cold (a sudden chilling off,) injuries, etc., and never, so far as we know, comes by reason of exposure to polluted air or to emanations from preceding cases, that we may reasonably regard them as due to the first named class of causes and not to the last. On the other hand, no amount of exposure to cold can cause a scarlet fever, a diphtheria, or any other of the zymotic diseases, but a very slight exposure to their contagium is sometimes sufficient to infect the most vigorous child.

An attack of rheumatism is almost invariably preceded by a history of having taken cold, i. e., the warm and perhaps over-heated body has been allowed to suddenly chill off. When this occurs it is the surface which feels the change first. The action of the skin is suspended, the superficial blood vessels contract, thus forcing the blood toward the internal organs; normal metabolism is thus seriously interfered with and the metabolic products can not easily be gotten rid of by reason of the inactivity of the skin. Lactic acid and other abnormal constituents appear in the blood, inflammation of the joints, and the phenomena of rheumatism rapidly follow. Predisposition to these processes is produced by long continued over indulgence in food in excess of bodily need; or of those kinds of food which are the most readily oxidized—the carbo-hydrates and fats,—and which therefore use up the oxygen of the system at the expense of the proteids, leaving the latter in a suboxidized state.

Rheumatism and scarlet fever have a widely different origin, but their effects are to a certain extent very much the same.

SYMPTOMATOLOGY.

The signs of endocarditis are rarely very marked, and the disease may run its course without giving any evidence of its presence—a valvular lesion discovered later on being the first intimation of its

having existed. The insidious nature of the affection makes it all the more important that a thorough and frequent examination of the heart should be made in every condition in which it is likely to occur. A very rapid pulse, beyond that which the antecedent disease would naturally produce should excite suspicion. If auscultation reveals a soft murmur, a slight prolongation of systole or a tendency to reduplication of either the first or second sound, its presence may reasonably be inferred. Dr. Cheadle says: "Reduplication of the second sound, heard at the apex, and diastolic bruit, are among the most certain signs of rheumatic endocarditis." (*Cyclopedia Diseases of Children*, Vol. II. Keating.) Should the disease not early prove fatal, a pallid face and other evidences of anemia become marked features. This condition is due to obstruction of the pulmonary circulation. There is also much wasting of tissue, the child becomes thin and feeble. Dropsy rarely ensues, unless there be disease of kidneys coexisting. Should there be also inflammation of the heart muscle, or of the pericardium, subjective symptoms become more pronounced. The child is restless, has a distressed look, and, if old enough, complains of pain and discomfort over the region of the heart which often palpitates violently.

Sometimes embolic detachments, from the deposit of fibrin on the inflamed valves, may be carried by the blood current into the lungs, the brain, or other organs. This would give rise to a sudden elevation of temperature, increase in rapidity of pulse, together with the local symptoms caused by the affected organ or part. In addition to the special symptoms which are indicative of endocardial inflammation, there are the symptoms of the disease with which it is associated.

TREATMENT.

Perhaps the most important thing for consideration is the question of prophylaxis. Can endocarditis be prevented in those diseases in which it is so prone to occur? In many cases the answer will surely be, yes; in some, no. In all cases the severity of the attack can be greatly lessened and the amount of damage to the heart, therefore, much diminished. To achieve this end, there must be a clear conception of the pathologic condition which is the active cause of the affection. There is, in addition to the contamination of the blood with morbid materials, an elevation of temperature and an increased number of heart beats. These three elements are the important factors in the production of endocarditis. The indication is clearly then; 1, to prevent as much as possible the formation of the morbid elements in the blood; 2, to keep the temperature down; 3, and to quiet the excited action of the heart.

To achieve the first, the diet must be made to conform to the demands of nutrition, both in quality and in quantity. An excess of that requirement means, if it does not set up a salutary diarrhea, an accumulation of sub-oxidized material within the blood. It is always a serious error to attribute the weakness of an acute illness to a lack of nourishment; whereas it is simply due to depressed innervation. It is quite different from the weakness which results from long continued illness or from continued fasting.

It is, therefore, not only useless but positively injurious to try to force food upon a patient during

the first few days of an acute affection. At this period there is usually no desire, and often a positive disgust, for any form of food except water, and that is both a remedy and a food of the greatest value. It supplies all the pabulum needed during this period, and at the same time renders active aid to the system in getting rid of the effete and poisonous materials. A bountiful supply of pure cold water is worth more to the suffering one than all else that can be done. After a few days there is need of light, easily digested, easily assimilated diet. Carbohydrates and fats should be excluded as far as possible. On account of their great affinity for oxygen they rapidly exhaust the oxygenating capacity of the systems and thus seriously interfere with the oxidation of the proteids and of the metabolic products; the result of which would be an increase of the morbid elements within the blood.

Milk has long been a standard article of diet for the sick room and it is rarely contra-indicated. In conditions such as we are dealing with, it is often best to begin by giving whey, which being of lighter nutritive value may be given more freely; it is, too, a most excellent diuretic. It should be remembered that patients may live for months on milk alone or even whey, and not be much the worse for it. Other articles,—beef essence, beef tea, egg in small quantities, properly prepared (the white of an egg beaten up with the juice of a lemon and eaten slowly with a spoon is excellent), mutton broth (free from fat) gelatin preparations and the like, are also useful to fulfill the purpose which I have stated.

2. The best means at our command for the prevention of high temperature is undoubtedly the free use of cold water, both internally and externally. External applications of cold water are well borne in the majority of cases of rheumatism, and the relief which they afford is often most marked. If the temperature persistently keeps high, ice bags should be applied about the head and over the abdomen, one or two thicknesses of a towel being first laid over the latter. Ice bags placed over the abdomen are far more efficient in lowering temperature than when applied to any other part of the body. In scarlet fever nothing acts so efficiently as pouring cold water all over the body for ten, fifteen or thirty minutes at a time; or the child should have a cold bath at short intervals. Not quite so efficient, but often of much service, is the use of the antipyretic drugs. Great care should attend their employment in treating children on account of their toxic effects upon the heart. But wisely used they often do much good.

3. To quiet the action of the heart, and thus render it less likely to become the seat of inflammation, nothing is better than rest in bed and the use of small doses of morphia. I have met with no other remedy that can serve this purpose so well. It slows the heart, relieves pain, and quiets that disturbed state of the nervous system which is particularly prominent in febrile affections of childhood. To get the best benefit from it, the dose must be nicely adjusted to suit each case—one one-hundred-and-twentieth grain for a child five or six years of age, repeated every two hours, being generally sufficient; a smaller dose will sometimes do better; a larger one is often demanded. These prophylactic measures are of the greatest importance in preventing cardiac complications, whether the case be one of

acute rheumatism, scarlet fever or any other of the various affections in which they are liable to occur. It matters not whether the antecedent disease be due to a disturbance of the metabolic functions of which the exciting cause is cold, or whether it be due to an infection of the system with microorganisms; the indication for their use remains the same.

These measures, too, for the prevention of endocarditis are precisely what are needed in the treatment of its acute stages. Special remedies for the primary disease will be given but it is not my province to consider them in detail here. The treatment of endocarditis after the acute symptoms have subsided is much the same as the treatment of the chronic form of the disease.

THE NATIONAL FORMULARY.

Read by invitation in the Section on Materia Medica and Pharmacy at the Forty-fourth Annual Meeting of the American Medical Association.

BY PROF. C. LEWIS DIEHL.

LOUISVILLE, KY.

"As the practice of pharmacy can only become uniform by an open and candid intercourse being kept up between apothecaries and druggists among themselves and each other; by the adoption of the "National Pharmacopœia" as a guide in the preparation of official medicines; by the discontinuance of secret formulæ and the practices arising from a quackish spirit, and by the encouragement of that esprit du corps which will prevent a resort to those disreputable practices arising out of an injurious and wicked competition; therefore, the members of this Association agree to uphold the use of the "Pharmacopœia" in their practice, to cultivate brotherly feeling among the members, and to discountenance quackery and dishonorable competition in their business."

Thus, Article I of a Code of Ethics adopted by the American Pharmaceutical Association at the meeting of its organization in 1852. Forty-one years have passed, and but very few of the members who formulated and adopted this Article are now among the living, but during all this time it has been the keynote for the conduct, not alone of the members of the American Pharmaceutical Association, but for reputable pharmacists throughout our land.

But, it may be asked, if this is true, if this Article of the Code of Ethics has been upheld by the American Pharmaceutical Association, by its members individually, and by reputable pharmacists in general, why do we find the shops of pharmacists flooded with preparations, the formulas of which are wholly or in part withheld, and which pass current and are prescribed under names not known or recognized in the text-books of the medical and pharmaceutical profession? It is a question not easily answered without stepping on some one's toes, an operation which I propose to perform with as light a step as is practicable and sufficient to the purpose.

Within so short a period as thirty years ago, the manufacturers of pharmaceutical preparations for the trade in the United States could be counted upon the human digits. Their products were confined to such as could not be profitably or conveniently made in the pharmacies, or that might be required in emergencies. With the growth and development of the country, these establishments naturally extended their trade, so that from their small beginnings they soon became a power that exerted a decided influence upon the methods of the pharmacies.

The success of these pioneers in the manufacturing