festation and should not be waited for, as it may not occur even though the toxemia be severe.

In closing I wish to emphasize again the importance of careful, frequent and systematic examinations of the urine of pregnant women and beware of acetonuria.

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ARTERIOSCLEROSIS; REVIEW OF CASES.*

By DONALD J. FRICK, M. D., Los Angeles.

The cases chosen for review were all private cases that have been watched for periods of from one to five years. The symptoms of each were due to the arteriosclerotic changes or accompanying hypertension; none were accepted that had prominent symptoms due to other conditions.

The interest in the condition is due to its frequency everywhere. This is true in Southern California, especially where the worn out and broken down come for rest and recreation, and where on account of the climate every day is a working day for the people who live here. The "wear and tear" of life is constant and extreme.

As these cases are always with us and are every day being produced in our surroundings, every one of us should be familiar with the symptoms, the cause, the prophylaxis and the treatment.

Recognition of the pre-sclerotic stage will save many useful lives, recognition of the moderate cases may prevent progress of the condition, diagnosis of advanced cases often gives opportunity for amelioration of symptoms and prevention of sudden disaster.

To bring before you the salient etiological factors, the everyday symptoms, the points for diagnosis, and a few points of treatment that have been useful to the writer, this review has been undertaken.

Taking these twenty-two cases of arteriosclerosis, some late and some early, it has been the intention to classify them so they can be easily followed.

First as to etiological factors:

I. Heredity:—

Immediate family:

Five had one parent die of chronic nephritis.
Four had one parent die of heart disease.
Two had one parent die of arteriosclerosis.
One had both parents die of cerebral hemorrhage.
One had a brother die of cerebral hemorrhage.
One had one parent die of cerebral hemorrhage.
One had one sister die of cerebral hemorrhage.

II. Age limits:
- 2 bet. 20 and 30.
- 4 bet. 40 and 50.
- 7 bet. 50 and 60.
- 8 bet. 60 and 70.
- 1 over 70.

III. Sex:
- 8 males.
- 14 females.

IV. Class:
- 4 rich.
- 10 well to do.
- 2 poor.
- 6 moderate.

V. Thirteen married; 3 single; 6 widowed.

VI. Occupations:
- 3 bankers.
- 3 business men.
- 1 retired.
- 3 housewives.
- 1 teacher.
- 1 ranchowner.
- 1 student.
- Remainder no occupation.

VII. Race:
- 20 Americans.
- 1 French.
- 1 Australian.

VIII. Residence:
- Ten have lived in Southern California from 8 to 30 years.
- Remainder under 5 years.

IX. Immediate causes:

a. Infections—
- 11 have had typhoid.
- 2 have had tuberculosis.
- 4 have had pneumonia.
- 1 has had a venereal infection.

b. Constipation—
- 5 atonic over 10 years.
- 2 spastic over 20 years.
- Remainder none.

c. Mental strain—
- 20.

d. Alcoholism—
- 3 moderate drinkers.
- 1 heavy drinker.

X. Complaint:
- 4 retinal hem.
- 4 conjunct hem.
- 2 temporary blindness.
- 1 paralysis.
- 2 pain in legs and feet.
- 3 temporary paralysis.
- 1 dimness of vision.
- 3 headaches and indigestion.
- 1 shortness of breath on exertion.
- 1 shortness of breath after retiring.
- 1 blood in urine.

XI. Subjective symptoms—
- 9 headaches.
- 9 dizziness.
- Dyspnoea—
  - 10 on exertion.
  - 1 after retiring.

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Amaurosis—
3 temporary.
Vision—
4 lim. of field.
6 dimness of vision.
Remainder good.
Unconsciousness—
2 temporary periods.
Paralysis—
2 transient.
1 permanent.

XII. Objective symptoms:
General nutrition—
6 above normal.
8 below normal.
Heart—
15 hypertrophied.
3 dilatation.
Remainder normal.
Murmurs present—
3 mitral.
Irregularities—
6
Reflexes—
12 exaggerated.
6 normal.
3 diminished.
Arteries—
10 palpable.
7 def. thickened.
5 thickened and tortuous.
Blood pressure—
The readings were the averages during the time they were under treatment and were taken with a Cook's modification of Rivva-Rocci, a Faught, and with Kilbourn's sphygmomanometer; the earlier cases were all gotten by palpation of the radial—the later cases checked by the auscultory method.
4 bet. 120—130.
4 bet. 140—150.
7 bet. 150—180.
4 bet. 180—200
3 bet. 200—250.
Retina—
7 hemmorrhages.
12 tortuous vessels.
2 spasms of vessels.

XIII. Lab. examinations:
Urine, average of all examinations made.
Amount in 24 hrs.
6 normal.
9 increased.
7 diminished.
Spec. gravity—
9 normal.
3 high.
10 low.
Albumen—
6 present.
16 absent.
Casts—
5 present.
Remainder absent.
Indican—
15 trace.
3 increased amount.
4 none.
Anemia, Reds under 4,000,000. Haem. 75.
11 present.
4 absent.
Remainder blood not counted.

XIV. Complications—
6 intestinal nephritis.
2 pul. tuberculosis. One of these had B. P. of 120, and thickened and tortuous arteries.
1 Chronic cholecystitis.

Each of you has perhaps realized the inadequacy of such a segregation of etiological factors, symptoms, and signs, as it does not give you all the facts that are desirable. For instance it would be valuable to know the age of the patients with extremely high blood pressure, thickened arteries and serious symptoms,—without a detailed history of each case this is impossible. A woman of 46 and a man of 68 had the highest blood pressure, the woman's arteries were thickened and tortuous, the man's were simply thickened. One had temporary hemiplegia, the other permanent hemiplegia, so it was through the whole list of these cases; therefore this arrangement seemed the best that could be made.

The points of interest brought out by this summary are:

First, 15 of these patients had one or more of their immediate family die of a disease of the circulation. As Osler says: "Not only are there individuals, but whole families with 'hobby' blood vessels."

Second, the age limit from 25—75

Third, the predominance of females 14—8. A word about this, the predominance of women patients with arteriosclerosis is probably due to this locality. Women who live in the southwest, especially the arid regions, are continually under a nerve strain and therefore more likely to have early changes than men. Four of the severe cases of this series were women who had lived for 15—30 years in what was absolute desert.

4th, practically all these people were brain workers and money makers.

Fifth, ten had lived in California from 8—30 years. Twelve had come to California for their health.

Sixth, eighteen had had infections of definite severity. Seven had constipation of years' standing. Twenty of them had gone through years of mental strain. Four only had any alcoholic history.

The complaints of these patients are of interest:

Twelve of these patients had gone to oculists and were referred to me by those men.

The conditions found were unusual, comprising:
4 retinal hemorrhages. 2 dimness of vision.
2 temporary blindness. 4 conjunct. hemorrhages.

With the exception of two of these patients a proper diagnosis had not been made until they were seen by the oculist.

Eight of the remaining ten cases had had varied diagnoses from time to time.

The symptoms as a whole need no recapitulation, as most of them are those ordinary to the condition.

Diagnosis: In the foregoing paragraph has been mentioned the frequency of diagnosis made by the oculist, and too much praise cannot be given them for their ability to diagnose not only the late but also the early cases, which need attention and may be saved a great deal of the subsequent troubles of this malady. Early diagnosis will probably always remain in the hands of the oculist, as Dr. Geo. de Schweinitz and others have shown that the retinal arteries are the most important in which to see early thickening. The late ones should not need the eye man to be recognized.

Most of the cases here reported had been treated for either neurasthenia, nervous dyspepsia, heart disease, kidney disease, rheumatism, or our old friend uric acid diathesis.

As sclerosis of the arteries is not as a rule evenly distributed throughout the whole system diagnosis is sometimes difficult. However, careful attention to history, symptoms and signs gives us definite knowledge in almost every case. The history is usually one of high living, mental or physical strain, infections, over indulgence in alcohol or tobacco, and occupation poisoning. The symptoms may be all or a few of the following:

Headaches, dizziness, painful feet and legs, dyspepsia with eructation of gas at intervals especially after retiring, pain or soreness over the abdomen.

Furthermore we find dyspnoea, either on exertion or in one or two hours after retiring, also temporary blindness, limitation of field or dimness of vision.

There may be periods of unconsciousness followed by temporary or permanent paralysis and mild or severe attacks of angina.

In the late cases all the symptoms of heart and kidney insufficiency occur.

With such a history and symptoms, we may expect to find the cardinal signs, on physical examination, leading to a definite diagnosis. These are:

1. Thickening of the peripheral arteries.
2. Signs of hypertrophy of the left ventricle—dislocation of the apex outward—prolonged rumbling first sounds and accentuated aortic second.
3. Heightened blood pressure.
4. Occasional appearance of albumin in the urine.

Having arrived at this definite diagnosis the question arises: to what extent is this condition amenable to treatment? The results in my series are as follows:

None of these cases can be said to be cured. Seventeen of them, however, were definitely improved, that is to say their subjective symptoms for the time at least, have disappeared or been ameliorated. The two between 20—30 have absolutely no symptoms at present. One man with dyspnoea on retiring has been free from this symptom for two years. Digestive disturbances have been in several cases almost abolished.

Five were not improved,—perhaps relieved of one symptom, only to have others appear.

Anatomical results have, of course, been nil.

Decrease in blood pressure was accomplished in ten, these were cases that were able to so arrange their lives as to free themselvs from care, and strictly keep regular hours of rest. Any break in the routine has always been accompanied by return of high blood pressure. The amount of decrease was from 10 to 40 mm.

In twelve cases the blood pressure either remained practically stationary or gradually increased.

Four of the cases which had retinal hemorrhages are still under observation and from time to time have new hemorrhages.

Treatment: The object of treatment of this disease is threefold:

1. To remove existing causes which increase existing conditions as,

Constipation.
Chronic infections.
Nerve strain.
Muscle strain.
Injurious foods and liquors.

2. To ameliorate subjective symptoms.
3. To prolong life.

All three objects may be secured by hygienic, dietetic medicinal and psychic treatment.

Hygienic treatment must consist of:

Definite hours of rest, exercise and recreation.
Proper clothing.
Climate and elevation suited to the several needs.
Perfect ventilation of sleeping apartments.
Regular bathing in warm water for a period of 20—25 mins.

Dietetic: Foodstuffs so chosen as to meet the needs of the individual case; anti-constipation diets for some, obesity diet for others, fattening diet for a third class. We must keep in mind at all times that certain foods,—as meat extracts, spices, foods rich in proteids, and alcoholic beverages are injurious to kidneys definitely impaired.

Fluid intake must be carefully guarded, as large amounts, over 1500 cc., will raise blood pressure and increase the pathologic condition, thereby augmenting existing subjective symptoms.

Medicinal treatment: The nitrites, either as sodium nitrite or nitroglycerin do temporarily lower blood pressure, but certainly only when hygienic and dietetic treatment is carried out.

It is a mooted question whether blood pressure should be lowered as the rise is undoubtedly a protective measure on the part of the organism to make up for loss of elimination through temporarily or permanently impaired organs.

The different bromide preparations are of constant value as they relieve nerve strain, which is at all times distressing and absolutely harmful to the patient.

Cathartics should be used intelligently, not as is often done to counteract the baneful effect of large amounts of fluids given to wash out the kidneys, but to decrease intestinal putrefaction and absorption of toxins.

The iodides have always been a part of the treatment of this condition, not because they affect in any way the existing arterial changes but rather to help protect the vessel walls from further damage, and to increase elimination of toxic substances. Certainly the effect of these drugs is most gratifying in

many cases,—relieving muscular pains, decreasing dyspnea, etc.

Digitalis in small doses has to be used occasionally for those individuals with dilated hearts and the accompanying symptoms of lost compensation.

Psychotherapy: In no other class of medical cases is it as necessary to put the mind at rest and give encouragement as it is in these. In handling these people one must have tact, firmness and cheerfulness at all times.

To write out definitely for them every small item of the desired regime is the best beginning of pyschic treatment. Routine relieves their minds and gives them confidence.

In conclusion, our duty it seems to me to our patients with arteriosclerosis is to acknowledge their condition as early as possible, tell them frankly their danger, help them to moderate their lives so that they may go on comfortably to the end of their alloted time.

Discussion.

Dr. W. Jarvis Barlow, Los Angeles: It is impossible at this late hour of the morning to take up the many interesting features that Dr. Frick has presented. A few points, however, have come to my mind, i. e., to emphasize the importance of early diagnosis and the help of the oculist in these cases. The percentage of members in a family having similar trouble of circulatory disturbance, stated by Dr. Frick, as about 70%, coincides with most observers. We almost always find other members of a family with circulatory disturbance. I remember a family in which both the parents died and all the children (4) are now suffering from arteriosclerosis. In regard to the symptoms, the things most notable are the mental disturbances, vertigo and pains in the extremities. These are the things which impress me a good deal. The causes are generally over-exercise mentally or prolonged mental exercise rather than prolonged physical exercise; over-eating rather than over-drinking or smoking. The cases I have seen have been more from prolonged mental disturbance and strain. A few words in regard to treatment. Dr. Frick has laid great stress rightly on the matter of rest and diet. I do not know of any class of cases where one can get such good results with mechanical aid and without medicine as in arteriosclerosis. Diet of milk and vegetables or a buttermilk and vegetable diet, has been most efficacious,—also rest and exercises and baths. Dr. Frick did not give quite enough emphasis to baths,—electric or warm baths. Recently I have given several cases Nauheim baths who did not get well as rapidly as those under the electric baths. The electric baths are given with the idea of increasing the elimination and correcting the faulty metabolism, and also reducing the pressure. Many men have recently written on the high frequency current bringing down the blood pressure. I have personally had no experience with that. I regret the hour is so late for continuing this interesting subject.

Dr. T. J. Orbison, Los Angeles: I think it is a great pity that this subject should be crowded into the end of a morning, as there is so much to be said about it. It is really one of the most important questions to be considered by physicians in general. A great many of these cases are seen first by the neurologist—they come with indefinite symptoms—mental agitation, depression, interference with sleep—interference with digestion and mental warnings. The treatment depends a good deal upon when you get the case. I think the essential thing is to find out how long the patient has been the subject of this condition; to this end I have every case examined by an oculist, because so often the first symptom is sclerosis of the eye arteries. If you can get a case as early as that without any other symptoms, except possibly some heightened tension, the patient should be out of bed for a certain length of time each day. Very many women are affected. I think that that shows that we can, to a great extent, rule out alcoholism as a cause. In a good many of the cases in men, however, instead of alcohol I believe that tobacco is a cause. There is no drug which will heighten the blood pressure as will nicotine. I put these patients to bed for a time—the time being regulated by the nervous condition of the patients. I believe with Dr. Barlow, that the bath should be instituted early. You will find a quieting of their minds and of their hearts. In treatment, we know that we have connective tissue being formed in the media—iodide is the drug to use, and after a time by iodides alone the blood pressure will come down and stay down. When the blood pressure is up to 200 or even 150, I believe in using the nitrates in addition to widen the lumen of the arterioles. In late cases showing anginal symptoms, nitroglycerin is of benefit. But I believe the main point is in absolutely regulating the whole mental and physical life of the patient.

TREATMENT OF EPITHELIOMA BY CURETTING, FOLLOWED BY CAUTERIZATION WITH CHROMIC ACID AND LATER BY EXPOSURE TO X-RAYS.*

By GEORGE D. CULVER, M. D., San Francisco.

In the treatment of a superficial epithelioma certain points must always be carefully considered in devising a line of procedure that will completely remove all the pathologic tissue. No matter what line of treatment is used, outside of complete surgical removal, curettage is essential if the infiltration is at all extensive, and those cases in which it is not necessary are exceptional. Though many different methods of handling such a lesion are well known, attention is called to a particular method as one of preference in selected cases for gaining the best results both as to complete removal and as to absence of a disfiguring cicatrix. No one wishes to be left with a conspicuous scar, not even an elderly person, and many patients presenting epitheliomata of the face are still young.

During a number of years of association with Dr. Douglas W. Montgomery and Dr. Howard Morrow, I have had the opportunity to see many cases successfully treated with chromic acid crystals after careful curettage. This chemical is chosen primarily because it is a liquefying caustic, and like potassium hydrate it dissolves the cells and does not produce a banking up of the cauterized tissues when first it comes in contact with them, as do the caustics of which silver nitrate is the type.

The choice of the chemical as a caustic is an interesting and important matter. Some chemicals act superficially and form a leathery barrier against their deeper action. Other caustics are liquefying and tend to penetrate deeply. To illustrate: nitrate of silver is an excellent cautery to stop superficial bleeding because it forms this tough membrane, whereas one of the disagreeable features of using chromic or trichloracetic acid, caustic potash or acid nitrate of mercury is that bleeding is not stopped as with the first mentioned cauterizing agent, but the

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