is present, local sedation must be combined with constitutional specific medication.

A common treatment for an acutely-inflamed joint, might be laid down as follows:

Put the feet and legs in water as hot as can be borne; administer a full saline cathartic or a diuretic; apply a lead-water and laudanum lotion to the inflamed part; bleed with the lancet, or locally, with leeches; depress the circulatory force by the administration of arterial sedatives, and restrict to a low diet; use counter-irritants; any or all of these means being employed, according to the indications of the case, an exception to the use of the pediluvium existing in inflammation of the inferior joints.

The inflammation, having its acuteness thus broken, is often brought to a happy termination by painting the joint with the tineture of iodine, or with diluted Monsel's solution of the persulphate of iron; and, afterwards, if necessary, enveloping the parts in a lead-and-laudanum lotion.

Where structural change is feared as the result of effusions, mercurials may be administered and pushed to the least perceptible evidence of their impression.

When, in defiance of treatment, suppuration occurs in a joint, the pus formed is to be got clear of as speedily as possible. To effect this, it is, perhaps, not possible to adopt a better plan than the subcutaneous valvular puncture, to be made by using a delicate tenotome. At this stage, we may also resort to direct stimulation, with prospects of good results; stimulating embrocations, hot and cold douches, strapping, painting, passive motion, or even injections into the joint itself, may save the articulation when other means fail.

Professor Gubler employed ten parts of iodoform to twenty of sulphuric ether and twenty of alcohol. When dissolved, the liniment should be applied to the diseased joint, by means of a pencil. The parts should then be covered with a piece of oiled silk. For the same affection, Dr. Cottle dissolves iodoform in chloroform.

IX. LESIONS OF THE ORGANS OF CIRCULATION.

 $A neurism-Lymphangitis-Nævus-Phlebitis-Varicose\ Veins.$

ANEURISM.

J. M. DA COSTA, M. D., PHILADELPHIA.

This author states there are but two remedies in which he has any faith in the radical treatment of internal aneurism. The first is iodide of potassium. It should be used boldly. The following recipe was given continuously for ten months, with the most marked beneficial results, in a case of chronic aneurism:

287. R. Potassi iodidi, gr. xv.
Syrupi tolutani,
Aquæ, āā f.3j. M.
For one dose, thrice daily.

This remedy does no good excepting early in the disease.

The second remedy referred to is ergot. It is not yet known definitely how much good it really does. Some very excellent results have been obtained by Langenbeck. It may be given internally or by hypodermic injections.

In a disease so dangerous, so almost necessarily fatal, the importance of a knowledge of any remedy which seems to exert an influence is apparent. As both the iodide of potassium and ergot can be tried without injury to the patient, it is the duty of every practitioner, in cases of internal aneurism (in which, of course, surgical treatment is out of the question,) to try one or the other of these drugs.

The following formula may be used for the hypodermic injection of ergotin:

288. R. Ergotine, gr. ij.

Spiritûs vini rectificatæ

Glycerinæ, āā f. 3 ss. M.

Five minims (equal to gr. ½ of ergotin) for a dose. This is the formula of EULENBERG.

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Prof. Langenbeck employs the aqueous extract of ergot or Boniean's ergotin. It is usually administered hypodermically in the dose of gr. \(\frac{1}{4}\). In a case reported by Langenbeck, thirty grains of this preparation were injected in forty days with great benefit. The subclavian aneurism diminished in size, and the other symptoms improved.

Prof. Bartholow gives the following formula:

289. R. Extracti ergotæ fluidæ (U. S. P.,) f. 3 ij Carefully filter and inject in ten-minim doses.

A. T. H. WALTERS, M. D., OF LIVERPOOL.

In the Lancet, April, 1872, this writer recommends absolute rest, so far as possible, and a restricted diet. The patient should not so much as sit up in bed for weeks. His medicinal treatment is iodide of potassium, twenty grains, three times a day, continued for months. The application of an ice-bag over the tumor has also produced good results at his hands.

Dr. WARD (Medical Times and Gazette, September 26th, 1874,) also found decided value in the application of the ice-bag. He also administered digitalis with iron, and succeeded in causing the disappearance of the evidences of the tumor in a case of thoracic aneurism.

M. DENUCE, OF LYONS.

A case of aneurism of the anterior tibial artery is reported by this surgeon (*Lyon Medicale*, 1876,) in which he effected a cure by injecting into the sac the following solution:

290. R. Ferri perchloridi, gr. viij. Aquæ, f. 3 j. M. Seven drops for an injection.

The artery was compressed above and below the tumor for ten minutes, at the expiration of which time all pulsation had ceased. A compressing bandage was applied and kept on for some days, when the cure was found to be perfect. Immediately upon the introduction of the fluid, cramps came on in all the toes, and there was marked redness of the anterior part of the flesh. Both of these, however, vanished very quickly. D. advises this mode of treatment only in cases in which the artery can be compressed with certainty upon both

sides of the tumor, and he also advises compression by means of a bandage for some time, to insure the formation of a clot. The strength of the solution used in this case was but 15 per cent. GIVALDIS thinks it better to use one having a strength of 25 to 30 per cent., as a tougher and more solid clot is formed, and the danger of embolism is less.

DR. T. W. GRIMSHAW, OF DUBLIN.

In several cases of abdominal and thoracic aneurism, this physician has found beneficial and even successful results from *aconite*, united with as complete rest as possible. He uses:

291. R. Tinturæ aconiti radicis, m. v. M. This dose every three hours.

When the symptoms of poisoning from the drug become unpleasantly marked, the dose should be reduced one half. The diet should be low, consisting of bread and tea, beef-tea and soup, but no stimulants. From two to three months must be employed to effect the best results. (The Medical Press and Circular, May 17th, 1876.)

A combination of iodide of potassium with carbonate of ammonia is found to increase largely the efficiency of the former, in internal aneurism as well as syphilis, etc., a fact first noticed by Sir James Paget. The following has been found by Dr. Joseph P. McSweeny, "of the greatest service in internal aneurism." (*British Medical Journal*, January, 1874):

292. k. Potassii iodidi, gr. v.
Ammonii carbonatis, gr. iij. M.
For one dose.

JOLIFFE TUFNELL, F. R. C. S. I.*

The object of Mr. Tufnell's treatment is to obtain consolidation of the contents of the sac. It is especially adapted to the earlier stages of internal aneurisms. He records ten cases of cure, and others have been reported. The objects in view are to diminish the heart's action and increase the proportion of solid constituents in the blood. Continued rest in the horizontal position is the factor of most importance. It should be maintained for eight or ten weeks without the patient

^{*} The Successful Treatment of Internal Aneurism, London, 1876.

once sitting erect. The bed, therefore, should be comfortably arranged

in every respect.

The diet is to consist of three regular meals, as follows: breakfast, 2 oz. of white bread and butter, with 3 fl. oz. of cocoa or milk; dinner, 3 oz. of broiled or boiled meat, with 3 oz. of potatoes, and 4 fl. oz. of water or light claret; supper, 9 oz. of bread and butter, with 2 fl. oz. of milk or tea, making an aggregate of ten ounces of solid food and eight ounces of fluid in twenty-four hours. If thirst is very great, a pebble or very small pieces of ice may be held in the mouth. For wakefulness, lactucarium, gr. v, may be given when necessary. If there is bronchial irritation and cough, he prescribes:

293. R. Lactucarii, gr. xx. Extract. hyoscyami, gr. x. M. Make six pills. Two at bedtime.

If the patient has difficulty in swallowing the pill, he prescribes:

290. R. Tinct. lactucarii,
Aquæ lauro-cerasi,
Tinct. hyoseyami,
Aquæ,
Take at night.

f. 3 j.
f. 3 j.
f. 3 j.
M.
Take at night.

The bowels are to be carefully regulated, and aperients given only when necessary, the most suitable being pulv. jalapæ co., pil. col. co., and pil. rhei co.

Should the urine, become so charged with salts as to scald on micturition, he gives bicarbonate of potash, gr. x, in aquæ f. \(\frac{7}{3} \) j, from time to time.

Pain is frequently met with, and must be relieved by the free use of narcotics. A very useful prescription is:

295. R. Liquoris sedativi (Battley,)

Liquoris ammoniæ acetatis,

Liquoris antimonii et potassæ tart,

Aquæ frigidæ,

M xxv.

f. 3j.

m xx.

f. 3j.

M.

For one dose.

The hypodermic injection of morphia is very useful. A few leeches on the thorax, near the aneurismal sac, often relieve the pain; as does sometimes change of position, as lying prone, or the application of a heated smoothing-iron.

DR. S. FLEET SPEIR, OF BROOKLYN.

A threatening case of aneurism of the abdominal aorta is reported by this writer as completely cured by keeping the patient in bed for two months, with the following internal remedies. (*Medical and Sur*gical Reporter, March, 1874):

296. R. Liquor, ferri subsulphatis,
This amount three times a day, alternated with

297. R. Acidi gallici,
3 ss.

PROF. T. M'CALL ANDERSON, M. D., OF GLASGOW.

In 1875 this physician described, before the British Medical Association, several cases of aneurism of the arch of the aorta, successfully treated by galvano-puncture. The rules he lays down for its use, are as follows:

1. It is safer to attempt a cure by means of chemical, than by means of inflammatory, action; and, therefore, in every case, the continuous-current battery should be employed.

2. He always employs one of Stohrer's large-celled batteries; but the kind of instrument is not of great consequence, provided the cells

3. The needles should not be very thick, and should be insulated to within half an inch of the point, for we must aim at acting upon the blood in the aneurism only.

4. Should the needles be connected with the positive or negative, or both poles? The balance of opinion seems to be in favor of connecting them with both, although Dr. Anderson prefers connecting the needles with the positive pole only.

5. He uses a weak current, as it gives little or no pain, and does not excite serious inflammation.

Dr. Anderson considers the operation comparatively safe, but thinks there is a question whether the consolidation of the portion of the tumor which approaches the surface, may not, in some cases, favor the extension of the disease in other directions.

MR. C. F. MAUNDER, SURGEON TO THE LONDON HOSPITAL.*

The mode of treatment which this author advocates for the cure of popliteal aneurism and all other suitable cases, is moderate compression.

*Surgery of the Arteries, London, 1875.

ANEURISM.

aternating with relaxation, say for a fortnight, with a view, partly, if thought desirable, of promoting a more free collateral circulation in the limb; and, at the expiration of this time, continuous compression, either digital or instrumental (completely obstructing the artery,) maintained under chloroform or opium, if necessary, for a period varying from six to twelve hours, or even longer, and assisted by a tourniquet on the distal side of the sac, if the first attempt did not succeed. Should a few sittings fail to effect good progress in the cure, the ligature would be the next resort.

He sums up the general principles of treating aneurisms as follows:

- 1. No aneurism is to be regarded as necessarily incurable.
- 2. Some cases in internal aneurism are apparently cured by absolute and prolonged rest, restricted diet, and other medical treatment.
- 3. When possible, compression, either proximal or distal, is to be employed in addition.
- 4. In all aneurisms in which treatment by ligature is known to be a fatal operation, the above rules are to be first applied.
- 5. The treatment of progressive aneurism at the root of the neck, by the distal operation, is justifiable after medical treatment has failed.
- 6. In rare instances only may an aneurism be treated by ligature before compression has been tried and has failed.
- 7. Digital is to be preferred to instrumental compression.
- 8. Anæsthetics and morphia are valuable aids to compression.
- 9. Chloroform will, probably, prove to be a more effectual agent than morphia in all cases but the more hazardous.
 - 10. The value of morphia should be more thoroughly tested.

DR. G. W. BALFOUR.

The treatment recommended by this writer, for internal aneurism, comprises iodide of potassium and rest. The latter means the recumbent position and a restricted diet. The former he gives in doses of \ni j to 3 ss, three times a day, with infusion of chiretta. To get the specific effect of the drug, the blood must be rapidly saturated, and these large doses continued for many months. Iodism is more apt to occur from small than from large doses. If the patient is very intolerant, this can be overcome by intermitting the remedy. By strict adherence to this plan, Dr. Balfour has invariably succeeded in

relieving the symptoms and retarding the progress of the case; and, in some instances, has effected a cure. (*The Lancet*, Feb., 1876.) In regard to diet, fish was given as the least nutritious form of animal food, and the patients urged to restrain their appetites. In regard to fluids, water, tea and milk alone were allowed, and in as small quantities as possible.

RÉSUMÉ OF REMEDIES.

- Aconite is a valuable agent to lower the blood pressure. Its physiological effects must be produced and maintained.
- Alumen in doses 9 ss-j, thrice daily, is said to have aided the coagulation of the con-
- Barii Choridum. This substance, in doses of gr. 1-2/5, three times a day, has been successfully tried in aneurism by Dr. F. FLINT, (Practitioner. July, 1879.) He says of it: "In my opinion preference should be given to the chloride of barium in fusiform aneurisms, which have hitherto not been very amenable to treatment, and also in the aneurisms of advanced age."
- Chloral Hydrate is an important adjuvant for lowering the blood pressure in internal aneurism.
- Digitalis. Dr. J. M. Fothergill asserts that this drug "spurs on the natural efforts to rupture the sac." Yet some have prescribed it for the palpitation, etc. Mr. T. Holmes recommends that it be combined with iodide of potassium in internal aneurism when the heart's action is excited (m. v-viij at a dose.) At the session of the British Medical Association in 1877, Dr. Clifford Allbutt (Leeds) laid before the meeting the remarkable results to be derived from digitalis in the treatment of aneurism, which he considered the drug for this disease. It should be given in increasing doses until it brought down the pulse to 45, which should be kept at this rate so long as the patient tolerated it, even for months. Dr. Allbutt had watched two cases for three and nine years respectively, and these were at least in abeyance. Experience had proved to him that such modification of the heart's force was the reverse of injurious. Dr. Mackay (Birmingham) bore testimony to the value of iodide of potassium in the treatment of aneurism, and also to the beneficial effects of digitalis.
- Ergota. Highly commended by Dr. Da Costa and others. Ergotine has also been employed. Professor Von Langenbeck uses:

298 R. Ergotine, gr. j-iv.
Aquæ des.,
Glycerinæ, ää q. s.

For one hypodermic injection, to be thrown into the neighborhood of the tumor every day or every few days.

Ferri Perchloridi Tinctura. The injection of this, or some other ferruginous styptic, has proved useful in small aneurisms. Professor Billoth recommends it in those of spontaneous and traumatic origin. The danger is that fragments

of the clot will float into the circulation and produce embolism. To prevent it, compression above and below the sac is requisite.

- Gallicum Acidum has been highly praised. Dr. S. F. Speir, of Brooklyn, combines it with subsulphate of iron. (See page 249.)
- Plumbi Acetas has been given in doses of gr. ij-xx daily, with occasional success, even in undoubted aortic aneurism. It must be given for many weeks successively, the doses gradually increased, but lessened or suspended if symptoms of plumbism occur.
- Potassii Iodidum. The use of this drug, together with complete rest and a restricted diet, was first suggested by Dr. Graves, of Dublin. Dr. Balfour gives it in large and repeated doses. (See above.) Lesser doses, combined with carbonate of ammonia, are said to produce equal effect. Dr. Fothergill says this plan of treatment for internal aneurism, with small doses of hydrate of chloral added, is "theoretically perfect."

Tannicum Acidum, in doses of gr. v-xv has been used

Veratrum Viride. This remedy, used to depress the circulation, is an important adjuvant to the surgical measures in aneurism. In large internal aneurisms it is a powerful adjunct to other remedies, in slowing the circulation. This effect should be accomplished, however, without producing vomiting. The patient should, therefore, remain absolutely in the recumbent position, and a little opium should be combined with the veratrum. (BARTHOLOW.)

EXTERNAL MEASURES.

- Cold. The application of ice to the surface of the tumor is said to have acted beneficially in some cases. But it is a painful remedy and there is risk of sloughing of the skin.
- Emplastra. When the pain attending the increase of the tumor is considerable, the application of belladonna or hemlock plasters often gives relief. Or anodyne embrocations may be used, as

299. R. Tinct. aconit. radicis,
Olei olivæ, āā ℥ ij. M.
Apply on cloth to the part.

- Galvano-puncture is appropriate in a small minority of cases where the vessel implicated is of moderate calibre.
- Poultices. Astringent poultices have been thought to be of service. The application of a tan poultice to the epigastric region is reported to have greatly relieved one case. (Dr. W. Arding, in the Medical Times and Gazette, November 4th, 1876.)
- Pressure is a successful method of treating aneurism. When it can be carried out, compression of the artery above with the finger is by far the best plan. (Holmes.) The pressure must be equable and sufficient to stop the whole circulation (8 lbs. will stop that of the femoral artery.) Instrumental compression by weight, with a point not larger than the finger end, may be instituted in place of digital compression. Numerous instruments are devised for the purpose.

The Esmarch Bandage. Several cases cured by the application of this bandage have been reported. In all, the aneurism was of the popliteal artery. In all but one case the treatment was commenced by completely arresting the circulation in the limb for one hour by means of Esmarch's bandage, pressure being kept up after this time by means of a tourniquet. In all the successful cases the bandage was so applied that the sac was filled with blood at the time the circulation in the limb was arrested. From the consideration of these cases, it seems that the conditions to be observed as most favorable to success are the following-namely, that the circulation in the limb should be for a time completely arrested, that the aneurismal sac should be full of blood, and that the circulation in the aneurism should be stopped for a sufficient time to allow the blood to coagulate. For how long a time it may be prudent to exclude the blood from the entire limb by the Esmarch bandage, and when the more local effect of the tourniquet should be substituted for the Esmarch bandage, is a matter for further investigation. It is, however, probable, from the experience of long operations for necrosis performed under the Esmarch bandage, that surgeons have not yet reached the limits of safety as regards the time during which the bandage may remain on the limb. The advantages of this method are that it is rapid in its action, easy of application, requires neither complicated apparatus nor a large staff of assistants, and may therefore be employed in private practice as easily as in hospitals. The period of its application being comparatively short, the administration of ether would be justifiable if the pain, which is generally complained of after a short time, prove unduly severe. Compression for an hour seems to be quite adequate to insure complete stasis in the aneurism, and it is well known that the lower limb may be kept bloodless for much longer periods than that without any bad results following.

LYMPHANGITIS.

PROFESSOR THEODOR BILLROTH.

Inflammation of the lymphatic vessels is a not infrequent result of simple and poisoned wounds of the extremities. The object in the treatment is to obtain resolution, and prevent suppuration, if possible. The patient should keep the affected limb in absolute quiet; if an arm, it should be placed in a splint; if a leg, he should remain in bed.

When there is gastric derangement present, as is often the case, an emetic, or emeto-cathartic, is indicated. Not unfrequently the disease promptly subsides after the purgation and sweating induced by such a remedy. Among local remedies, rubbing the whole limb with mercurial ointment, is particularly efficacious. The limb should be covered

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warmly, so as to maintain an elevated temperature. For this purpose, wrapping it in cotton wadding is very suitable.

Should the inflammation increase in spite of this treatment, and diffuse redness and swelling occur, suppuration will take place at some spot. As soon as fluctuation is perceived, an opening should be made, and the pus evacuated. Should healing be retarded, it may be hastened by daily warm baths; these are particularly useful where there is a great tendency for the disease to return to a spot once attacked.

The disease rarely extends beyond the axillary or inguinal glands of the affected limb; but occasionally it is followed by pyemia or pleurisy, usually in a subacute form.

DR. THOMAS HAWKES TANNER.

In the treatment of lymphangitis, the patient should be placed on a bed, in the centre of a well-ventilated room, and unusual attention given to his hygienic surroundings During the day, he should drink freely of a solution of *chlorate of potash*, in lemonade or barley-water, 3 j to O j. Catharties are generally called for, especially if the bowels are constipated and the patient robust. Sulphate of soda or magnesia may be used.

In almost all cases, after the immediate onset of the disease has passed, there is need of concentrated nourishment, stimulants and tonics. Eggs, cream and extract of beef, the brandy-and-egg mixture, wine or spirits, are demanded. The following is a useful combination:

300. k. Ammoniæ carbonatis, Diss.
Tincturæ lavandulæ comp.,
Infusi cinchonæ flavæ, ad f. Z viij. M.
One-sixth part every six hours.

Acidulated drinks are sometimes refreshing and valuable where there is alkaline reaction in the saliva and a foul breath.

301. R. Acidi hydrochlorici diluti, f. z ij-iij.
Mellis, Decocti hordei, f. z ij-iij.
O ij. M.
For a daily drink.

Later in the disease, quinine and iron will be needed to hasten convalescence.

Locally, warm fomentations and large linseed-meal poultices, applied warm and frequently changed, give the greatest relief.

As the disease is often the result of the absorption of some poisonous matter by the lymphatics, this will require appropriate local treatment.

Internally, in such cases, the *sulphites* and sulphurous acids (also the sulpho-carbolates) have been recommended. These substances are yet under trial, but may properly be exhibited experimentally.

If red lines have begun to stretch up the limb, Prof. AGNEW recommends that it should be encircled by a blister above the disease, which, if timely applied, will stay the further progress of this inflammation.

NÆVUS.

In the cure of nævus, the means at our disposal may be divided into two classes: first, those by which a scar is avoided; and, secondly, those which necessarily leave a cicatrix of greater or less magnitude. The first class aim at the destruction of the texture of the nævus, or the coagulation of the blood which it contains, by agents which can be introduced through minute punctures of the skin. The means used are the injection of coagulating fluids, the introduction of setons, the subcutaneous ligature, electrolysis and the galvanic cautery. Electrolysis, the other method referred to, may be performed in two ways, viz., with and without insulation of the electrodes. With perseverance, the latter is an efficient means; but local injections are much more convenient.

Dr. Bigelow, of Boston, uses:

302. R. Argenti nitratis,
Aquæ destillatæ,

For injection.

āā gtt. iij-vj. M.

Dr. DE SMET, of Brussels, has found that small nevi may often be dispersed by tattooing with Croton oil.

Dr. Henry G. Piffard, of New York, expresses the opinion that in the capillary nævus, or "wine-mark," probably the best method of treatment is to paint, lightly, the surface, or part of it, if large, with nitric acid. When the cauterized epidermis exfoliates, the nævus should be found to have slightly diminished. The application can then be repeated. It should be done by means of a small probe, around the end of which a little cotton has been wrapped.

In this form of nævi, however, the treatment advocated by Mr. Balmano Squire, of London, is preferable. He scarifies the affected skin with a series of short incisions, about one-sixteenth of an inch apart, to the depth of nearly dividing the cutis vera. Interposing a piece of white blotting-paper, he exercises gentle pressure with the finger, for about ten minutes. This checks the bleeding. In a fortnight the surface is healed. If necessary, the operation may then be repeated.

DR. DAWSON, OF NEW YORK CITY.

This surgeon prefers, to all other means, in the treatment of nævi, the galvanic needle. In its use, however, certain important precautions are required. For superficial nævi, all that is required is a degree of heat that will radiate into the deeper tissues from the surface. If too intense heat be used, it will be removed with the needle, knife or platinum strip, whichever may be employed, and the appearance of the nævus will, subsequently, be the same as it was before the application; whereas, if the platinum be only heated to a dark-red color, destruction of tissue will not be produced, and the vessels will be made to shrink by the radiated heat. For all superficial nævi, of moderate size, a single thorough application is all that is required to effect a cure. In treating a subcutaneous nævus, a white heat becomes necessary, in order that the knife or needle shall retain sufficient heat to be of service when it has reached the deeper tissues. Nævi having large surfaces, may be destroyed at different times; and considerable portions will also be destroyed by the moderate inflammatory action which follows each operation. A point especially insisted upon by Dr. DAWson is, that the galvanic cautery does not, in any true sense, produce a coagulation or thrombosis in the vessels, like that produced by astringent injections, but rather a clot that becomes rapidly organized, and a shrinking in the calibre of the vessels, which remains permanent, and that this can be effected without destruction of tissue. If too hot a needle or knife from the galvano-cautery be introduced into tissues, there will be as much hemorrhage as after the use of a cold, sharp knife.

PROF. JOSEPH LISTER, OF LONDON.

303. R. Acidi carbolici puris, m ij-v.

To be injected, as evenly as possible, in minim doses, over the whole tumor.

This injection can be repeated at intervals of four or five days, if necessary. If the tumor is very vascular, it may be prudent to trans fix its base with hare-lip pins, and strangle it with a ligature tightly fastened beneath them.

PROF. ZEISSL, OF GERMANY.

This surgeon recommends the use of his "antimonial plaster."

304. R. Ant. et potassæ tartratis, Emplastri adhæsivi, 3j. M. Apply on the nævus and a little beyond its edges.

This brings about pustulation in from five to seven days. If this is profuse, the wound can be dressed with rags wet with oil; if but little, the paste may remain on until it falls off. Usually, the spot will be healed in two weeks, leaving a slight scar. The process is said not to be very painful.

RÉSUMÉ OF REMEDIES.

Caustics. These are especially applicable when the tumor is of comparatively small size, and is upon the edge of the lip, the tip of the nose, the brow, or the cheek. The application of strong nitric acid, on a needle or a piece of wood, held against the spot for a considerable time, has the effect of producing an eschar, which separates with a certain amount of inflammation; that inflammation coagulates the blood, and gradually obliterates the tumor. Chloride of zinc is preferred by some surgeons; the acid nitrate of mercury by others; or nitrate of silver, chromic acid, etc. With any of them a depressed cicatrix will remain.

Coagulants. Of these, perchloride of iron is the best, but its use is never safe. An instance is on record where an injection of a single drop brought about the death of a child in two minutes. Carbolic acid is less dangerous. Ferri persulphatis, m ij, has also been used. Care should be taken that the fluid injected be distributed over the growth in minute portions; and the surgeon should be careful to do less at one sitting than is necessary for obliteration, trusting rather to repetitions of the operation, which ought not to be made at too short an interval. A preliminary disruption of the texture of the nævus, with a tenotomy knife, is advantageous, by permitting greater diffusion of the coagulating fluid; and, therefore, a greater effect with a smaller quantity than otherwise would be the case. With these precautions, that the circulation be controlled, and the amount injected kept within due proportions, this method of treatment seems to be the best we have for nævi of moderate size, situated on the face, if they be mainly subcutaneous. It is safe, very successful, and leaves no scar.