

Valerianate of soda is declared by Granville to be very useful in weak and very sensitive patients. He even thinks its therapeutic value is decidedly greater than that of most of the other salts of soda. It relieves the nervous trouble and hyperæsthesia of rheumatism and gout quite effectively, and he cannot help thinking that it also promotes the activity of the absorbents, thus tending to remove congestion, exudation, and even thickening and hardening about rheumatic joints. Usual dose, one to five grains.

It may be assumed that all the good that can be got out of soda will be obtained by these preparations. Charcot always gives quinine, also, when he uses soda or potash in large and long continued doses. Others prefer salicine as an anti-rheumatic tonic. Both prevent the excessive formation of uric acid. But the tartrate of potash and iron is the best tonic against the anæmia and debility of chronic rheumatism. It is pleasanter and better than the muriate tincture.

But, as before said, the soda salts only reach the liver and pancreas, the intestinal juices, the chyle and serum of the blood. They do not penetrate into the interior of the red blood-globules, nor into the parenchyma of the muscles and fibrous tissues, which the potash salts do. The acetate of potash, quickly supported by iron, is a most valuable remedy in subacute rheumatism, and especially in those forms which are liable to frequent acute exacerbations.

But citrate of potash is a much more pleasant and less depressing remedy in very chronic cases.

There are, pathologically, two great varieties of chronic rheumatic joint disease: 1, the fibrous; 2, the dendritic. In the fibrous form the tendency of all the exudations is fibrogenous. The inflammatory products or thickenings, instead of remaining in the soft and gelatinous stage of fungoid granulation, become firm and tough. The new cells are converted into fibres, and these harden and contract; even the inner surface of the synovial membrane is made hard. The normal dendritic growths of the villi are conspicuously absent, and in place of them are thick folds of fibrous tissue. The synovial membrane itself is infiltrated with fibrinous substance, composed entirely of fibre-cells, both fusiform and oval; only a few round cells are to be seen.

The favorite remedy for this state is the muriate of ammonia, administered as freely as iodide of potash is often given. If fears are entertained that it will prove too debilitating, it may be aided by aromatic spirits of ammonia, or by quinine, or Huxam's tincture of bark; although Granville prefers the tincture of serpentaria, which he thinks has a specific effect. The muriate tincture of iron should not be forgotten.

Muriate of ammonia is a solvent and liqueficient remedy which tends to render all the secre-

tions more abundant, while at the same time it reduces the plasticity of the blood and destroys fibrin.

It acts upon the kidneys, and if long continued will cause emaciation, commencing first with absorption of fats and then of soft fibrin. It is used both internally and locally against fibrous thickening of the ligaments and tendons about rheumatic joints. Some go so far as to think it almost specific against all cirrhotic affections of the connective tissues. In chronic rheumatic synovitis it is said to break down all the exudations into a thin mucoid substance, which is finally absorbed. It also has a powerful effect on the formation of urea; it is not only converted into urea, but helps to break down uric acid into urea, and aids in the excretion of both. It is also supposed to be really useful in so-called rheumatic neuralgias, when the fibrous sheaths of the nerves are involved. The dose is from five to fifteen grains, up to one hundred and fifty grains a day.

Its great rival is corrosive sublimate, which may be given in doses of one-twenty-fourth to one-sixteenth or more of a grain, in Huxham's tincture of bark, or in the tincture of serpentaria.

The next great variety of chronic rheumatic arthritis, or synovitis, is the dendritic, in which the folds or fringes of the synovial membrane are greatly developed, so as to nearly resemble papillomata. For this sabina has been suggested, especially when it occurs in females at the menopause, or where there is decided uterine derangement. Sabina once had a great repute, which was not undeserved, in chronic rheumatism and gout, for which it was employed both internally and locally to the affected joints.

Pulsatilla is a remedy which is supposed to act specifically upon almost all the mucous and synovial membranes, especially those of the small joints, and has a well-assured reputation in chronic rheumatism. It is most useful in subacute and chronic arthritic rheumatism when there is little or no fever; also in what is called rheumatic gout in females, with catarrhal and rheumatic disorders of menstruation.

But next to carbonate of soda, Charcot prefers iodine to the muriate of ammonia and sabina; not iodide of potash, but tincture of iodine, in doses steadily increased from eight to ten drops in twenty-four hours, up to thirty to sixty drops. He gives it during meals in water slightly sweetened, or in a glass of Spanish wine, which he says is better. He continues it for several weeks, or even months, and says it never gives rise to symptoms of iodine poisoning. Probably its effects are largely counteracted by the starch in the food. Granville also thinks iodine the most potent and suitable medicine to decompose urates in the blood, and says it relieves chronic rheumatic pains so promptly that he has rarely to use anodynes.