

Cases in which Piperine may be administered.

According to Dr. Dominic Meli, piperine possesses the same febrifuge qualities as the cinchonic alkalis. At the hospital of Ravenna he has treated a great number of fevers with it, and even goes so far as to assert that its action is more certain and speedy than that of sulphate of quinia. Piperine should be given in smaller doses than the sulphate of quinia. Intermittent fevers are the only diseases in which it has been hitherto employed. It may also be used in gonorrhœa, in the place of cubeb pepper.

Dr. Meli says, that the acrid oil of pepper possesses the same febrifuge properties as piperine, but in a less degree. This is no doubt owing to the retention by it of a certain portion of the crystalline matter.

UREA.

This substance, which is the immediate principle of the urine of mammals, was discovered by Rouelle Cadet, and most of its properties were investigated by Fourcroy and Vauquelin.

Physical and Chemical Properties.

The purest urea that can be obtained is exhibited in the form of elongated, brilliant pearly scales; it is colourless, transparent, of a cool and sharp taste, and has an odour similar to that of urine. Exposed to a heat of 120°, it fuses without being decomposed; and at a few degrees higher, it melts, is decomposed, and carbonate of ammonia without any intermixture of hydrocyanate is sublimed. By a regulated increase of heat a residue is obtained, consisting entirely of cyanuric acid: this by a further heat is resolved into its elements.

Thrown upon burning charcoal, urea immediately gives out white vapours, which have a strong ammoniacal odour. Exposed to the atmosphere, it absorbs no moisture; it is, however, very soluble in water and alcohol.

A concentrated aqueous solution of urea is not decomposed by heat or cold; but a diluted one boiled or left to itself, is gradually transformed into carbonate of ammonia. Nitric and nitrous acids and chlorine are the only substances that decompose urea at an ordinary temperature.

Infusion of galls and the alkalis produce no precipitate with it; but if the solution be slightly treated with an alkali, or alkaline substances, the urea is converted into ammonia and carbonic acid.

According to Prout, urea consists of,

	Atoms.
Azote	46.65 = 2
Carbon	19.97 = 1
Hydrogen	6.63 = 4
Oxygen.....	26.63 = 1

Process for obtaining Urea.

According to M. Thenard, the following is the best mode of obtaining urea: Urine evaporated to the consistence of a syrup, is to be treated with its own volume of nitric acid at 24° : the mixture is to be shaken and immersed in an ice-bath, to solidify the crystals of super-nitrate of urea: these are washed with water at 0, drained and pressed between sheets of blotting paper. When they are thus separated from foreign matters, they are to be dissolved in water to which subcarbonate of potass is added, whereby the nitric acid is taken up, and the urea set at liberty. This new liquor is evaporated at a gentle heat, nearly to dryness: the residue is treated with pure alcohol, which only dissolves the urea, the solution is concentrated, and the urea crystallizes.

Action of Urea on the Animal System.

As urea has never been found in any fluid of the body, except the urine, and in the blood when animals are deprived of their kidneys, M. Segalas was desirous to ascertain whether, when nephrotomy had been performed, the subjects of the experiments would sink in consequence of the accumulation of urea, or by the retention of the other elements of the urine. He therefore injected into the veins of several dogs, gradually augmented quantities of urea, and found that the animals survived it, and not a trace of urea was detected in the blood. He found, however, that the injection of urea stimulated the urinary function in an extraordinary degree. Since that time the diuretic action of urea on man has been confirmed by M. Segalas himself, and M. Fouquier, though it may be doubted whether the former has not exaggerated that action.

M. Segalas has given urea in diabetes, but without success. The composition of the morbid urine was not changed by it, but it may still be given as a diuretic in the place of others that have ceased to influence the urinary secretion.

Mode of Administration.

Urea has been given internally in solution in sugared water. It has been used in the dose of a gros; but it will be better to begin with twenty-five or thirty grains only.

[It is extraordinary to find such an acute physiologist as M. Magendie anticipating that urea should be of use in disorders when it is wanting in the urine. This is a consequence of his doctrine, that all the varied secretions of the body are ready formed in the blood, and are merely, as it were, strained through the several organs from or in which they are deposited. The fallacy of such views has been admirably exposed by my very learned friend, Dr. Fletcher, of Edinburgh, who, in

speaking of these doctrines of secretion in general, thus apostrophizes in particular the M. Segalas of our text:—"M. Segalas goes even further than this, and condemns cow's milk in scrofula, not only because it contains albumen, but because cows, as shown by M. Huzard, are very liable to tubercular accretions! By what process, or series of processes, these are to pass *en masse* out of the body of the cow with her milk, and again into the body of the drinker thereof, does not immediately appear." He then goes on to show how this doctrine might be further applied, and the folly of such application. "But granting that the secreting vessels are thus easily influenced with respect to the nature of the organized matters which they deposit, we need be at no loss at any time for a new pleura or peritoneum, a new nervous system, or a new set of muscles, as occasion may require; since, without trying to manufacture them in a laboratory, as some persons have presumed that we shall in no long time be competent to do, they may easily be got by feeding on isinglass or carpenter's glue, on the white of eggs, or on the clot of the blood of bulls or of goats. M. Bonhomme's suggestion of taking crude phosphate of lime in rickets, for the purpose of setting new bones, was a mere bagatelle to what may be done in this way." (See Ryan's London Medical and Surgical Journal, Feb. 21, 1835.)

No wonder that M. Segalas "employed urea in diabetes, but without success!"—*Tr.*]

OIL OF THE EUPHORBIA LATYRIS.*

The euphorbia latyris, or spurge, is an indigenous annual of the family of Euphorbiaceæ, and, like all that

* *Giornale di Farmacia chimica*, 1824. Dr. Carlo Calderini has obtained an oil from the seeds of the *euphorbia latyris*, or *casaputia minor*, which may be used as a substitute for that of the *croton tiglium*. Its purgative qualities have, however, been long known.