semen, or any spermatozoa found in those examined with the microscope. It is necessary to add that gonorrhoea and other urethral discharges have been carefully inquired for, and their absence ascertained.

Albuminuria in phthisis is well enough known; but it must not be supposed that even under these conditions it indicates amyloid or fatty degeneration of the kidneys. Fürbringer (Virchow's *Archiv*, Bd. 71, Heft 3, "Zur Diagnose der amyloiden Entartung der Nieren") has shown that it may sometimes occur independently of all structural lesion, and frequently when the kidneys *post mortem* show the appearances of chronic venous hyperæmia (cyanotic induration).

Albuminuria in epilepsy was first described by Max Huppert (Virchow's *Archiv*, Band 59, S. 367); and more recently Otto (Berliner *Klinische Wochenschrift*, No. 42, 1876) found albumen in the urine twenty-two times in thirty-one cases after epileptic attacks. Both these authors seem to regard it as the immediate and temporary consequence of the vascular disturbance caused by the fit; but I have notes of several cases in which no fit had occurred for days, yet albumen was present in the urine.

I have frequently observed albumen in the urine of syphilitic patients without being able to suppose that any renal disease existed. There had been no suppurations; and I cannot believe that amyloid degeneration could be present, because amyloid disease is remarkably rare in this district, while syphilis with albuminuria is not, and because several of the cases were in the earlier stages of the secondary manifestations.

The occurrence of albuminuria in bronchitis calls for no remark, except that a large number of cases of bronchitis have been included under granular kidney, it being so frequently a coincident or consequence of the latter disease.

Albuminuria in connection with tonsillitis has been noticed before, but I cannot say by whom. In one of the cases, the condition was chronic, and might be classed with those considered under the head of debility.

I do not imagine that the albuminuria of chorea is worthy of being considered anything special. The patients in whom I have seen it have all been young boys, in whom, as we have seen, albuminuria is very common.

The case of laryngitis was simply one of catarrhal sore-throat with aphonia, and made a rapid recovery.

The table and the list of diseases I have been considering is not intended to include all the conditions under which albumen may be found in the urine. It is simply a tabulated statement of the result of the examination of the urine of all the male patients who presented themselves to me from the 25th of February to the 5th of April; and my object is to show, not that albuminuria is a *symptom* of many diseases, but that it is a phenomenon which may be present under such a variety of conditions that *per se* it affords us no indication of renal disease.

THE TREATMENT OF AGUE BY QUINETUM SULPHATE.

By W. AINSLIE HOLLIS, M.D.*

I HAVE recently tried the administration of quinetum sulphate in about a dozen cases of ague. This substance recommended itself first to my notice on the score of economy; it is scarcely half the price of quinine. Quinetum represents the whole of the alkaloids of the *Cinchona succirubra* bark. The tree itself grows plentifully in East India, Ceylon, and Java. The sulphate contains, according to Mr. Whiffen† of Battersea: Quinine sulphate, 25 to 30 per cent.; cinchonidine sulphate, 50 to 55 per cent.; cinchonine sulphate, 20 to 25 per cent. He further states that the variations of the alkaloids rarely range to the extent of 5 per cent., as above mentioned. This fact is, of course, of some importance in estimating the therapeutic value of the drug.

The sulphate of quinetum is a white flocculent substance consisting of numerous fine acicular crystals, bitter in flavour, and possessing, according to Dr. De Vrij, a molecular rotation of 38 deg. to the left. It readily dissolves in acidulated water. Drs. Chevers, Ewart, and Bird have used it in India in the treatment of intermittent fevers with success. Dr. Vinkhuysen narrates some cases in the *Practitioner* (February 1878), wherein quinetum successfully cured ague after quinine

had failed to do so. He found it to be specially serviceable in those protean forms of malaria classed usually as masked ague. The curative value of the red cinchona alkaloids, as far as my own experience avails, far exceeds that of the comparatively small quantity of quinine which they contain. I am, therefore, led to believe, with Dr. Dougall, that the other alkaloids are valuable antiperiodics. MM. Coletti (*London Medical Record*, 1878, p. 129) and Raffertie (*Philadelphia Medical and Surgical Report*, vol. 20, p. 383) both ascribe important antiperiodic properties to cinchonidine. If we refer to the analysis of quinetum sulphate, we shall find that about half the drug is composed of the sulphate of this alkaloid; it appears, therefore, probable that some of the valuable properties of the mixed alkaloids are derivable from this substance.

A dose of quinetum sulphate of from ten to fifteen grains is almost invariably sufficient of itself to stop the course of a febrile intermittent. In two cases wherein it failed to do so, I subsequently tried quinine with no better result. A man with tertian ague, living at Felscombe, came under my care on the 19th of February last. He had been under treatment for this disease since Christmas without relief. One dose of fifteen grains of the quinetum sulphate entirely checked the shivering fits, and the subsequent administration of three-grain doses three times daily for three weeks cured him. In another case, a youth aged 16, who had been taking six grains of quinine daily for three weeks for a quotidian fever, and under this treatment had greatly improved, was completely cured of the disease by nine grains of quinetum sulphate in the twenty-four hours. I select these two cases as illustrating the value of quinetum sulphate when other remedies were of less avail.

Finally, in quinetum sulphate I believe we have a valuable antiperiodic remedy second only to quinine. Its comparative cheapness recommends it specially to the favourable consideration of the medical staff of hospitals and other charitable institutions where economy is, or ought to be, particularly practised.

SURGICAL MEMORANDA.

TINNITUS AURIUM FROM TENSION OF THE MEMBRANA TYMPANI, RELIEVED BY INCISION.

AMONGST applicants for relief of Eustachian closure, deafness, or tinnitus, the latter is the most distressing, and is that for which advice is most frequently sought. The case in point seems to have been caused through the influence of the tensor tympani muscle, which, the patient declared, would drive him insane if not relieved. He came under my treatment on November 5th, 1878, complaining of "rumbling" noises; but in addition to this, he often fancied he heard persons addressing him, giving evidences of old tympanic mischief and nervous impairment. The watch was only heard on contact in the right ear, and not at all in the left. In order to determine adhesions of the membrane, and the mobility of the malleus, Siegle's pneumatic speculum was introduced, but no irregularities were disclosed there, nor was the tinnitus in the least relieved, as it sometimes is, by the use of this instrument. Turnbull's rheophore was next used, but this also failed. His ears were repeatedly washed out, the membrane properly dried, and he was put on iron, chloric ether, and strychnine, being rather debilitated. His general health improved in some measure, but the noises were as incessant as ever. My diagnosis then was that, probably through reflex nervous action, the membrane had been excited to contraction by the loud sounds caused by his own hammer and those of his fellow-workmen in their daily vocation. The patient having been for a long time stone-deaf in the left ear, and well advanced in life, on January 7th, 1879, I incised the membrane in the usual way, behind the handle of the malleus; when, much to both his gratification and my own, on his returning to me, his hearing distance was increased to two inches, and, though the noises were still there, they were so materially lessened, that the patient felt tolerably comfortable.

REMARKS.—There is every reason to believe that, had tenotomy of the tensor tympani muscle been performed along with the tubular ligament enclosing it, as it maintains the membrane in a state of tension, the tinnitus would have been still more relieved, and the hearing more perfect. But the membrane only having been incised, it is evident that the propagation of sound to the fluid must have been rendered much more perfect, simply by the solid conductor occupying the opening, and by its other end fixed to the middle of the tense membrane allowing atmospheric air on both sides, according to the principle elaborately worked out by Professor Müller that "a small body fixed in an opening by means of a border of membrane, so as to be movable, communicates sonorous vibrations from air on one side, to water (or the fluid of the labyrinth) on the other, much better than solid media not

* Read at the East and West Sussex District Meeting of the South-Eastern Branch.

† Stoeder (*Weekblad van het Nederl. Tijdschrift voor Geneeskunde*, vol. 17, p. 249), in comparing the analyses of the English (so-called) quinetum with that from the Javanese *cinchona succirubra*, finds that the former contains 24.69 per cent. of cinchonidine, 5.5 per cent. of quinine, and 38.24 per cent. of cinchonine; the latter, 45 to 46 per cent. of cinchonidine, 6 to 14 per cent. of quinine, and only 26 to 27 per cent. of cinchonine. In the English drug, there was 21 per cent. of amorphous alkaloid against 4 to 5 per cent. of same in the Dutch sample.