although the excretion by the kidneys remains approximately within the normal limits.²⁹ Not only is uric acid then found in the blood itself, but also in the morbid transudations. In the pleuritic effusion from acute pneumonia or tuberculosis; in the ascites from cancer, or cirrhosis of the liver, and from the various changes in the kidneys; and in the fluid of ovarian cysts and hydroceles in decrepit individuals—in all of them uric acid has been detected even in considerable quantities.³⁰ The greater part of it has doubtless been brought there; some of it may have formed *in loco*, as was plausibly argued by Dr. Ord,³¹ perhaps by the action of a ferment upon the leucocytes, as suggested by von Noorden.³²

All the elements, the combination of which generally leads to transudations rich in urates, exist in full force in the case of gout. There are, on the one hand, a leucocytosis of polynuclear and small lymphatic corpuscles, as also disintegration of the tissues and various organs which tends to an excessive formation of uric acid; there are, on the other, chronic myocarditis, fatty infiltration or similar degenerative changes of the cardiac muscles which conduce to its retention. Hence from the inflammatory serum which bathes the decaying and dead parts of and around the joint, the specific contents are precipitated, so that the uratic deposits are an epiphenomenon, and not the cause of the gouty paroxysm.

CASE OF ENCYSTED STONE IN THE BLADDER, WITH RUPTURE OF THE CYST, PERITONITIS, AND DEATH.

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A RETIRED tradesman, aged 64, had suffered from hæmaturia on and off for nearly ten years. He had no real pain, and, to use his own expression, "if he had not seen the blood in his urine he would not have known that he suffered from any bladder trouble." The blood appeared suddenly, lasted for some days, and disappeared suddenly, and recurred perhaps four or five times in a year.

In September, 1894, I saw him for the first time, and sounded him, but detected no stone. The bleeding had then been going on for a week, and finding after a few days it still persisted and that he was steadily losing flesh and strength, he was visited by Mr. Cadge, of Norwich. At this time the urine had become offensive, it contained a fair amount of dark blood intimately mixed with the urine, but no coagula, very little albumen, no muco-purulent deposit, but small gritty particles of phosphatic matter were discovered. Mr. Cadge sounded, but found no evidence of stone, only a hard smooth bladder, and slight enlargement of the prostate, but not enough to impede the use of instruments. The bladder was washed out with warm water. Three or four weeks after this the patient was seized with sharp pain, and voided a small piece of phosphatic concretion. The pain subsided, but recurred in a short time, and again he passed some phosphatic grit and was relieved. His general health gradually improved; he left his bed, and was able to walk out. The urine became clear and healthy, with only now and then a little blood. In October, however, pain at the end of the penis and vesical tenesmus came on, and persisted for several weeks. Then ensued the fatal seizure. I was suddenly called, and found him in a state of collapse, unable to pass any water, with distended abdomen and all the signs of peritonitis. I passed a soft catheter, and drew off only a little very offensive urine, and tried to wash the bladder out with a few ounces of boracic water, but none returned. His collapse increased, and he died in a few hours.

The necropsy showed acute peritonitis; the bowels were glued together by recent lymph, and there was a quantity of offensive fluid—apparently urine and serum mixed—free in the abdominal cavity. The bladder was flaccid and empty, the muscular walls were of average thickness, the mucous

membrane was rather dark in colour. The examination was made under difficulty, and I was not allowed to remove the parts. With the finger, however, the interior of the bladder at first felt smooth and empty, but presently I detected at the lower fundus a small sac with a communication which admitted the tip of the finger unwillingly. In this sac were a quantity of concretions, the largest of which was about the size of a marble; this was composed of white phosphates, loosely compacted into a stone, and had no uric acid nucleus. The sac was apparently composed of mucous and peritoneal coats only, and at its bottom was a round hole through which the urine had escaped to set up the fatal peritonitis.

REMARKS.—The occurrence of encysted stone would not by itself call for special notice, but I have never seen or heard of spontaneous rupture of a portion of the containing sac. Mr. Cadge tells me that he has repeatedly observed fatal peritonitis, the starting point of which was the thin walls of a sac which contained foetid urine—urine which was probably not regularly changed, and which eventually produced inflammation and even sloughing of the mucous and serous walls of the sac. But he has never seen actual perforation with the escape of urine into the peritoneal cavity.

NOTE UPON A FORM OF CATARRH FOLLOWING RESIDENCE ON THE SUMMIT OF BEN NEVIS.

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THE meteorological observatory on the summit of Ben Nevis was definitely equipped and "staffed" in October, 1883, since which time a regular rotation of officers has been established at intervals of every three months or so. The staff complement ordinarily consists of three individuals, two of whom are engaged in taking and recording observations, the third being told off chiefly for culinary and household work. All three are, as a matter of course, exposed to the rigours and inclemencies of the climate on the top of the mountain, and are thus subject to conditions that, *prima facie*, might be expected to favour the occurrence of catarrhs and inflammations. But experience shows quite a different result. The observatory staff while in actual residence on the summit has been remarkably free from all kinds of ailments during the eleven years that have elapsed since the opening.

The subsequent residence at low level, however, renders the members of the staff peculiarly liable to an affection which they have accustomed themselves to designate as the "Ben Nevis cold." This closely resembles, in most of its features, what we are in the habit of recognising as an influenza catarrh. The attack generally commences in about forty-eight hours after the patient has taken residence at the low level. First, feelings of shiveriness are experienced, followed by *malaise* and disinclination to exertion of any kind, stuffiness of the nasal passages, sore throat, hoarseness, sometimes cough, coryza, and occasionally tenderness of the conjunctiva and lachrymation. The temperature does not show much disturbance; usually it does not rise above 100° in the evening, although the symptoms become aggravated in the afternoon. Gradually, for a period varying from ten days to three weeks, the patient gets rid of the objective symptoms of the attack. During the whole period he feels uncomfortable and disinclined for work, and this condition persists for some time after the coryza has disappeared. One attack does not seem to have the least protective influence, as recurrences take place in the same individual time after time, but intermissions do occur. Post-primary attacks may be as severe as a primary attack, and an attack following upon one month's residence on the summit may be as severe as an attack following the usual three months' residence. The period of the year seems to exert no special influence, summer attacks being quite as severe as those noted in winter. Certain individuals of the staff seem to be more susceptible than others; and an individual suffering from an ordinary cold at the low level, on mixing with the staff in residence on the summit, almost surely infects them with

²⁹ Von Noorden, *op. cit.*

B. Naunyn, *Über die Chemie d. Transurate*, etc. Reichert and Du Bois Arch. f. Anat. und Physiol., 1865.

St. Thomas's Hospital Reports, 1872: On the Relation of Gout to Uric Acid

³² *Op. cit.*