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Notes on Bright's Disease of the Kidney, as observed chiefly in the Clinical Ward of the Jamsetjee Jejeebhoy Hospital, at Bombay. By C. MOREHEAD, M. D., Professor of Medicine, Grant Medical College.

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IT is now twenty-four years since Dr. Bright first published* the very important pathological facts, that dropsical affections are often dependent on certain structural changes of the kidney; that these lesions are characterised by albuminous urine, and are frequently attended by a cachectic state of the general system.

These statements were supported by the publication of 24 cases, collected chiefly in Guy's Hospital, during the two years which preceded the appearance of Dr. Bright's Report.

The accuracy of these opinions has been amply confirmed by Dr. Bright's subsequent contributions to Guy's Hospital Reports, as well as by the writings of Dr. Christison, and those of other hospital physicians, in the large cities of Great Britain, Ireland, and the Continent of Europe.

The diseases of the kidney characterised by albuminous urine, dropsical affections, and general cachexia, at present generally designated by the name of the eminent physician by whom they were first brought to notice, are acknowledged to be of frequent occurrence among those classes of the community who resort for relief to the public hospitals in Europe. They are, moreover, of very great pathological interest and importance; but, so far as I am aware, we have not as yet any published observations which go to show whether these diseases are frequently met with or not in the same classes of the inhabitants of tropical countries.

* Reports of Medical Cases, &c. London, 1827.

It is the object of the present communication to take the first step towards supplying this deficiency. It consists of the narrative of 31 cases of Bright's disease, which have passed under my observation, chiefly in the Clinical Ward of the Jamsetjee Jejeebhoy Hospital, during the last thirty-three months.* But it is not to be concluded that these thirty-one cases include all the instances of the disease admitted into the hospital during this period. It will be observed that of these cases the nature of five of them was incidentally discovered on dissection after death; and while I write these observations Mr. Sub-Assistant Surgeon Sebastian Carvalho has placed in my hands the notes of three other cases which have lately come under his notice, and that of Mr. Lisboa, in the course of their pathological inquiries in the hospital. These additional cases will, I doubt not, be submitted to the Society on some early suitable occasion. From these circumstances, then, it may be inferred, that cases of the disease have been occasionally overlooked, and that those now about to be narrated do not comprise the total admissions from Bright's disease during the last thirty-three months.†

It may, therefore, I believe, be admitted that this structural degeneration of the kidney is of as frequent occurrence among the hospital-frequenting classes of the native community in Bombay as in the large cities in Europe. But we may venture to draw a still more comprehensive inference than this; for we may not, on the authority of these cases, assume that the frequency of the disease in Bombay is to be attributed to the influence on the resident native population of the example of the

* During this period the total admissions into the Hospital may be estimated as follows :—

Hindoos.....	3,820
Musulmans.....	3,453
Christians, Portuguese natives of Goa or Bombay	1,889
Parsees.....	688
Women of all castes.....	1,627

Total..... 11,477

Average number of daily inmates in the Hospital..... 255

† Since these notes were written, seven additional cases have been received into the Clinical Ward.

lower classes of Europeans who frequent the settlement ; and that it, therefore, is not to be viewed as an indigenous disease, but as one grafted on the people in consequence of the introduction and spread of the dissipated practices upon which it is known to be so frequently dependent in European countries.

The native population of Bombay is very varied, and fluctuating in its character, and on a perusal of the cases it will be seen that they include all castes, and the inhabitants of different and widely-separated countries, and that there are among them individuals who must have arrived in Bombay already affected with the disease, from Cabool, Khorassan, Scinde, Cutch, Kattyawar, Bengal, and the Coast of Africa. It is therefore not unreasonable to conclude that the present statement relative to Bright's disease is of more than local application, and that it may at least justify the suspicion that further inquiry will show that, equally as in Europe, it prevails in certain classes of the varied tribes and nations of the continent of Asia.

In noticing the leading circumstances connected with these cases, I shall arrange my observations under the following heads :—

I. On the months in the year in which the disease has been chiefly observed.

II. The classes of the native community who have principally suffered.

III. The period of life of those affected.

IV. The habits of the patients ; the relation of the disease to scarlatina.

V. The principal secondary affections ; the number of instances in which death has taken place in the way of coma.

VI. The morbid anatomy of the kidney in the fatal cases.

VII. The morbid anatomy of other organs.

VIII. The character of the urine.

IX. The treatment.

I.

On the months of the year in which the disease has been chiefly observed.

From the circumstance of the fluctuating character of the native population of Bombay, and of the advanced stage of

disease in which they seek for hospital relief, it is not to be expected that these cases will afford any information relative to any relation that may subsist between the commencement of this disease and particular atmospheric states; nay, more, they do not even afford information in regard to the months in which an aggravation of the secondary affections may be looked for. It might have been anticipated that an aggravation of these affections would have led to application for hospital relief chiefly in the cold months of November, December, January, and February, and then in the rainy months of June, July, and August; but this very probable relation is not supported by these cases. In the four cold months there were only eight admissions, and in the three principal rainy months only six; whereas in the months of September and October there were twelve admissions, in March and April four, and in May none.

It occurred to me that the more frequent admissions in September and October might be traceable to the circumstance that these are months at the opening of the fair season, in which Mahomedan pilgrims and others begin to arrive in Bombay in considerable numbers, and that the increase of admissions then might not have relation to the season of the year, but rather to the influx of additions to the population of individuals who had been subjected to the fatigues and exposure of travelling. A reference, however, to the particular admissions in September and October, does not sustain this view. It may be stated, then, that if there be any relation between the original or secondary affections and particular seasons of the year, it can only be ascertained from a much more extensive series of data than those now under consideration.

II.

The classes of the native community who have principally suffered.

Of the thirty-one cases of the disease, nine were Hindoos, thirteen Musulmans, four Portuguese, three Parsees, one Indo-Briton, one Purwaree.

The Hindoos were natives of the following districts:—

Cutch.....	1	Concan.....	3
Deccan.....	2	Benares.....	1
Jeypoor.....	1	Country not stated.....	1

The Musulmans were of—

African extraction	3	Bombay	1
Deccan	2	Khorassan	1
Scinde	1	Cabool.....	1
Mooltan	1	Country not stated....	1
Bengal	2		

The Portuguese were natives of Goa, but resident in Bombay for longer or shorter periods. The Parsees were natives of Surat and Bombay, and the Indo-Briton was a native of Pondicherry, but long resident in the Deccan.

III.

The period of life of those affected.

The ages of the affected individuals may be thus stated:—between 20 and 31, there are 18 cases; between 31 and 41, 8 cases; 9 between 41 and 50; 3 between 50 and 55; and of 3 the ages are not stated.

IV.

The habits of the patients; the relation of the disease to Scarlatina.

In regard to those habits which are likely to have excited or predisposed to the disease, it appears that in eleven cases, the habit of spirit-drinking was admitted; in four others it was allowed, in association with the habitual use of opium; in four the use of spirits was denied, but that of opium admitted; in two ganja was habitually smoked; in two there had been secondary syphilis, in one associated with spirit-drinking, in the other with opium-eating; in none had there been mercurial influence. In four the use of spirits and of opium was denied; in eight cases there was no statement on these points recorded. The subject of Bright's disease was first brought by me to the notice of the Society in a short note, presented in the month of April 1849, in which the

following observation is made :—" It will be an interesting inquiry to determine whether habitual opium-eating may not predispose to or excite the disease, just as habitual spirit-drinking has been ascertained to do ; whether, in fact, the cachexia arising from habitual opium-eating may not in many instances be traceable to the presence of Bright's disease."

In the Edinburgh Monthly Journal of Medical Science, for the month of June 1850, there is a very interesting communication "on the habitual use of opium," by Mr. Little, of Singapore. In this paper it is observed, relative to the effects of the habitual use of opium, "and among affections of the kidneys Bright's disease is not uncommon." The relation of this disease, then, to the habitual use of opium, is a question of interest, and deserving further investigation.

The frequent apparent connection between Bright's disease and the dropsical affections consecutive on scarlatina, has been a subject of remark by writers on Bright's disease. But I believe that the etiology of the disease, as observed in this part of India, must be independent of any relation of this kind, for scarlatina, if it is ever met with, must be of very rare occurrence indeed. I have myself never seen a case of the disease in India, nor, among the professional friends of whom I have made the inquiry, have I met one who felt certain that he had ever met with it.

V.

The principal secondary affections ; the number of instances in which death has taken place in the way of coma.

Of the thirty-one cases,* there were affected with—

Dropsy, anasarca, ascites..	24	Heart affections	2
Diarrhœa and dysentery....	11	Erysipelas	1
Bronchitis	10	Pneumonia	1
Dyspepsia	4	Cirrhosis.....	1

In regard to the manner in which death took place in the fourteen cases which proved fatal in hospital, as well as in the

* It need hardly be observed that the aggregate of the statement exceeds the number of individuals affected, because several were the subject of more than one secondary affection.

other four who died immediately on leaving the hospital, or, in all probability, shortly afterwards, it appears that six died in a state more or less comatose; the others chiefly from exhaustion.

VI.

The morbid anatomy of the kidney in the fatal cases.

In some the kidneys were enlarged,—the greatest weight was 11 ounces,—in others they were smaller than natural; in the greater number they were of normal size. They were in several instances lobulated, in more mottled red and white, and presenting a granular surface on removal of the capsule. On making a vertical incision of the organ, the surface showed a well-marked encroachment of the cortical portion on the tubular, and this was in general more marked in the central parts of the kidney than towards the extremities. In one instance, that in which the kidney was of largest size, the surface of the incision had a fatty appearance, but whether from fatty degeneration or not was not ascertained by the microscope. In three cases, in addition to other structural changes, there were small cysts here and there, throughout the organ.

VII.

The morbid anatomy of other organs.

Of the fourteen cases of which the post-mortem appearances are described, the following morbid states were present, in addition to the structural degeneration of the kidney:—

Dilatation of the right ventricle, dilatation and hypertrophy of the left ventricle.....	1
Opaque deposit on the inner surface of the aorta.....	2
Pericarditic adhesion.....	1
Pleuritic effusion and hepatization of the lung.....	1
Emphysema of the lung.....	1
Cirrhosis of the liver.....	1
Peritonitis from paracentesis.....	1
Inflammation of the mucous membrane of the large intestines, as shown by increase of vascularity, ulceration, and granular deposit.....	3

VIII.

The character of the urine.

In all the cases in which the urine was carefully examined, its albuminous state and low density have been well marked. It has been for the most part of pale amber or lemon colour, clear and neutral, ranging in specific gravity from 1.003 to 1.018. In quantity it has generally ranged from 20 to 40 ounces in the twenty-four hours; and in cases beyond these limits it has more frequently exceeded 40 ounces than fallen short of 20.

It will be observed that for the most part the specific gravity* of the urine falls below what has generally been observed of this disease in European countries; but on this point it is inexpedient at present to enlarge, for as yet we are not possessed of any series of observations which go to show the reaction, the density, the quantity of urine in normal states of the system in the inhabitants of the warmer climates of the globe. It is reasonable to suppose that in the inhabitants of India, with their varied habits, as regards food, their residence in a warmer atmosphere, we may look for a normal standard of the qualities of the urine different from what obtains in European countries. Mr. Sub-Assistant Surgeon Carvalho is at present engaged in a series of observations on this subject; and it is to be hoped that before long, through his industry, and that of the other graduates of the Grant College, this, and other questions relative to the influence of climate and other agencies on the physiological and pathological actions of the system, in tropical climates, may be gradually elucidated.

In two cases (XXV. XXVI.) the albuminous state of the urine was not presistent: it presented itself in association with accessions of intermittent fever, and disappeared when the recurrences of fever were prevented by the use of quinine and other means. It may, I think, be very fairly questioned whether there existed in these cases any structural disease of the kidney. There was, probably,

* The specific gravities are noted as observed with an urinometer, graduated for a temperature of 60°. These observations have been made at a mean temperature of about 80°; and may be sufficiently corrected by an addition of 2° to each specific gravity noted.

in association with the febrile disturbance, merely a state of congestion of the organ, which disappeared on the removal of the febrile condition: a state of the kidney analogous probably to that which we may believe exists in many instances of the albuminuria of dropsy, consecutive on scarlatina. This view is confirmed by the following case of a Parsee, by name Khodadad, in whom the albuminous state of the urine was less in degree and still more transient.

He was 40 years of age, a native of Persia, and addicted to the use of spirituous liquors, and admitted into the hospital on the 1st November 1848. He had been affected with febrile symptoms for about 10 days, attended with nausea, pain of the large joints, and of the loins, and with a miliary eruption on different parts of the body, and some enlargement of the spleen. For several days after admission he was affected with occasional febrile accessions; the urine was scanty, of specific gravity 1.020, and gave a slight flaky deposit under heat and nitric acid. He left the hospital cured on the 27th November, there having been no traces of albumen in the urine for about 20 days before his discharge.

While these cases confirm the generally-admitted fact that there may be the occasional and transient occurrence of albuminous urine, independent of confirmed structural disease of the kidney, cases VIII. and IX. support the converse truth—that in the advanced stages of Bright's disease we may casually examine the urine, and find that it gives no traces of albumen. The low specific gravity (1.004) of cases VIII. and IX. would no doubt to observers in European countries have been a most suspicious circumstance; but though calculated at all times to arouse attention, this low density of the urine will, I believe, be found not to be of the same significance in India. I expect that it will appear that urine of very low specific gravity is not an unfrequent occurrence in the normal states of that secretion in some of the classes of the native community of Bombay; but, as I have already observed, the discussion of this point would be at present premature.

In only one case of the series (XXIX.) does it appear that hæmaturia was at any time observed.

IX.

The treatment.

On this point these cases afford no instruction : in all, the disease of the kidney had probably advanced so far as to be beyond the influence of medical treatment. The secondary affections, inflammatory and dropsical, were treated on ordinary principles ; and, in general, they were for the time removed. The chief impression on the dropsical symptoms was made by the use of diuretics.

The cases narrated are all of males, but from this no inference can be drawn relative to the infrequency of the occurrence of the disease in females. The proportion of males to females in this hospital is 6 to 1 ; and, moreover, the disease has not been looked for among the females with the same care as among the males. I make this statement in order to show that in this communication the data for comparison on this point do not exist.

CASE I.—*A diver by occupation ; anasarca ascites ; urine of low density and albuminous ; dilatation of the right ventricle of the heart ; hypertrophy, and dilatation of the left ; the kidneys enlarged, lobulated, in a state of yellow granular degeneration.*

Suliman Seedee, a Musulman, 25 years of age, an inhabitant of Zungibar, and resident in Bombay about a month. He had followed the occupation of a diver and a blacksmith ; been in the habit of drinking spirituous liquors, and eating opium occasionally, but not habitually ; had, however, been an habitual smoker of ganja. About five years before he came under observation he was the subject of dropsical symptoms for about ten days, which made their appearance after he had been engaged in his occupation of diver. There was no recurrence of them till about five months before his admission into the clinical ward, on the 7th March 1849. Then they had been preceded by febrile symptoms, coming on frequently with chills, not terminating by sweating, and attended with scanty urine. On admission there was general anasarca and ascites ; the respiration was somewhat hurried, and dry bronchitic rales were heard in different parts of the chest ; the impulse of the heart was rather increased, but the

sounds were natural. He admitted some uneasiness of the loins; the urine was said to be copious, and to be passed frequently; the pulse was of good strength; there was no febrile heat; the bowels were regular, and the tongue moist and clean. He continued under treatment till the 24th of April, when he died. During the first month the urine ranged in quantity from 40 to 80 ounces and upwards in the twenty-four hours, was clear and pale, sometimes alkaline, at others neutral, and always gave a considerable flocculent deposit under heat and nitric acid. The dropsical symptoms were stationary; a sense of uneasiness across the chest was frequently complained of, attended with some degree of dyspnœa, cough, and crepitous rale in both dorsal regions.

On the 17th April præcordial uneasiness was complained of, and there was a degree of increased dulness over the region of the heart, the action of which was accelerated, and the sounds confused. The pulse was very small; and now the urine decreased in quantity, and was reduced to 9 ounces; the dropsical symptoms, the dyspnœa, and asthenia increased, and diarrhœa was superadded. He became somewhat drowsy, and died on the 24th April.

The treatment consisted of diaphoretics, diuretics, and purgatives; rubefacients, antimonials, and on two occasions leeches were used for the chest affection, and latterly stimulants were exhibited.

Inspection seven hours after death.—*Chest.*—The pericardium contained 8 ounces of serous fluid; the cavities of the right side of the heart were dilated, and filled with blood; the left *ventricle* was also dilated, and its walls hypertrophied; the valves were all healthy; the inner surface of the aorta near to the arch was roughened from yellow deposit; the lower lobes of both lungs adhered to the costal pleura firmly posteriorly; and a considerable part (more of the right lung) of these lobes was in a state of red hepatization.

Abdomen.—Serous effusion, but to no great amount, was present in the cavity of the abdomen; the liver was enlarged, indurated, and its incised surface mottled; both kidneys were slightly enlarged, and somewhat lobulated; their surface, when denuded of the capsule, was mottled dark red and yellow, and was granu-

lar; the kidneys when vertically incised showed much granular degeneration; the surface being mottled red and yellow, granular, with confusion of the tubular and cortical structures. This state was most marked in the central part of the right kidney; it was more diffused in the left one. In both, in one or two places, there was tubular structure, not encroached upon, but the cortical portion external showed commencement of yellow granular deposit.

Remarks.—The question suggests itself,—Had the dilatation of the right, the slight hypertrophy and dilatation of the left ventricle, relation to the occupation of diver, which this individual had followed?

CASE II.—*Dropsical symptoms; urine of low density and albuminous; bronchitis, diarrhœa, periostitis, erysipelas, as secondary affections; kidneys large, and in a state of yellow granular and fatty degeneration; an opium-eater.*

Hurrichund, a Hindoo writer, of 30 years of age, a native of Cutch, and resident in Bombay for about 7 months, was the subject of primary and secondary syphilis about five years before he came under observation, but no traces of the disease were present. He admitted that he had been in the habit of eating opium to the extent of 25 grains daily for about four years, and that he occasionally drank spirits. About four months before his admission into hospital he had been affected with dropsical swellings, which had disappeared without any medical treatment. About a month before admission he had experienced pain in the lumbar region, and the dropsical symptoms had returned.

He was admitted into the clinical ward on the 22nd April 1849. There was anasarca of the lower extremities; the abdomen was full, but without distinct fluctuation; the respiration was calm; there was no dulness on percussion of the chest, the sounds of the heart were natural, but an occasional crepitus mixed with the vesicular respiration in the dorsal regions, chiefly the left; the pulse was soft; the skin cool; the tongue moist; the bowels were reported to be regular; the urine copious; and the pain of the lumbar region formerly complained of had ceased. On the 24th the urine was amber-coloured, of specific

gravity 1.007, and gave an abundant flocculent deposit under heat and nitric acid. During the seven months that he was under treatment the quantity of urine passed was noted daily, and there are upwards of sixty observations on the character of the secretion to be found in the diary of the case. The urine fluctuated a good deal in quantity; it was seldom less than 20 ounces in the twenty-four hours, and during the months of June and July very generally amounted to about 5 pints; whether this great flow of urine was due to the diuretic remedies which he was at the time using, or to the influence on the cutaneous surface of the cold damp air of the monsoon season, is very doubtful. For the most part, the specific gravity of the urine ranged from 1.003 to 1.012, and it was always very albuminous. To the low density of the urine there were several exceptions, chiefly in the month of May, when the urine was about 20 ounces in quantity: on these occasions the specific gravity ranged from 1.018 to 1.030, and then the urine was generally of a deep brown colour, and very albuminous, and sometimes febrile symptoms were present. Throughout the course of treatment the dropsical symptoms were more or less present; bronchitic symptoms were also at times complained of, at others diarrhœa, sometimes dysenteric in character; there was also periostitis of the sternum, and erysipelas of the left thigh, in the month of October, attended with febrile symptoms, which tended much to increase the asthenic state. Febrile symptoms recurred about the 10th of November, attended with occasional delirium; the dropsical effusions increased, and he died, with much hurry of the respiration, but without distinct coma, on the 12th November. The dropsical state was treated with diaphoretics and diuretics, and the other indications as they arose were attended to.

Inspection eight and a half hours after death.—The body swollen from anasarca.

Chest.—There were about 7 pints of clear serous fluid effused into the sac of the right pleura, and about 1 pint into that of the left; the right lung was compressed against the spinal column, did not crepitate on pressure, but was soft and tough; the left lung was crepitating. There was no redness, or other trace of

inflammatory action observed in any part of the pleura; there were about 3 ounces of clear serous fluid in the sac of the pericardium, but no redness of the membrane, or other trace of inflammation; the heart was of smaller size than natural; and the mitral valves were somewhat thickened.

Abdomen.—There was about a pint of serum in the cavity of the abdomen; the liver, not enlarged, was in the first stage of hepatic congestion; the spleen was enlarged; both kidneys were much enlarged, the left one most so—it weighed 11 ounces; the right one weighed 8 ounces; both were somewhat lobulated, externally mottled red and yellow, but not granular; on incising the kidneys, the cortical portion of both was in increased proportion, was mottled red and yellow, and was somewhat granular and fatty in appearance; the tubular portion was encroached upon, but was quite distinct.

Head.—The vessels of the pia mater were somewhat injected, and there was slight serous effusion into the sub-arachnoid space.

CASE III.—*Gastro-enteritis, anasarca, and ascites; urine of low density and albuminous; paracentesis; death from peritonitis; kidneys small, in a state of yellow granular degeneration.*

Imam Khan, a Musulman Hakeem, of 30 years of age, a native of Dowlutabad, and resident in Bombay for two years and a half. He was in very indigent circumstances, and often very badly supplied with food; was in the habit of smoking ganja and tobacco, but did not indulge in the use of spirituous liquors. For about eleven days before his admission into hospital he suffered from febrile and dysenteric symptoms. He was admitted into the clinical ward on the 25th June 1849; he was reduced in flesh. The respiration was calm; there was no dulness on percussion of the chest; and vesicular respiration was general and unmixed; the abdomen was collapsed, tender on pressure, and slightly resistant; and an indurated enlargement was perceptible for two inches below the margin of the left ribs; the skin was of natural temperature; the tongue rather florid at the tip and edges; the pulse small and easily compressed; he complained of frequent calls to stool, and the evacuations, passed with griping

and straining, were said to contain blood and mucus; he also suffered from occasional vomiting after eating. At first attention was directed to the removal of the dysenteric symptoms. As these improved, bronchitic symptoms appeared; and on the 11th July there was puffiness of the face and œdema of the feet. The urine was now examined, and was found to be of pale amber colour, of specific gravity 1.004, and albuminous; it was frequently examined during his illness; it varied a good deal in quantity, frequently above 40 ounces in the twenty-four hours, and latterly often below 20, the specific gravity ranging from 1.004 to 1.018, and the presence of albumen always clearly indicated. Diarrhœa succeeded an alleviation of the bronchitic symptoms, continued present for several weeks in succession, and often in an aggravated degree; the dropsical symptoms increased, there was troublesome dyspnœa; the abdomen swelled, and became tense and fluctuating; paracentesis was had recourse to on the 9th December, and 14 pints of clear serous fluid, of specific gravity 1.006, and giving a copious deposit under nitric acid, was drawn off; on the 11th there was general tenderness of abdomen, with a very feeble pulse. This increased; and he died on the 12th.

Inspection eleven hours after death.—*Head.*—There was considerable serous effusion in the cavity of the arachnoid and in the sub-arachnoid space; the vessels of the pia mater were congested; and there was about an ounce of serum in the ventricles of the brain.

Chest.—There was about a pint of reddish serum found in the sacs of the pleura; both lungs collapsed and felt crepitating under the finger; the right lung was in part adherent to the costal pleura, but there were no adhesions of the left lung; the heart was contracted and smaller than natural; the valves were healthy, and there was no hypertrophy of any of the walls; about 2 ounces of serum were found in the sac of the pericardium.

Abdomen.—About 10 pints of serum in the cavity of the abdomen; the peritoneal covering of the small intestines presented in some places a dotted red appearance, and shreds of recent coagulable lymph were found upon its surface and between the convolutions of the intestine, leading to tender adhesions between the convolutions, and between the surface of the intestines and

the anterior wall of the abdomen ; the peritoneal aspect of the trocar wound appeared to have healed, and did not yield to the passage of a blow-pipe. There was no blush of redness or greater trace of inflammatory action around the trocar wound than elsewhere in the peritoneal lining of the anterior parietes. The convex surface of the liver was adherent to the peritoneal covering of the diaphragm by a thin layer of lymph ; the organ was smaller and harder than natural, and yet presented appearances of congestion. The kidneys were smaller than natural, and each weighed 3 ounces. On removing the capsules the surface presented a pale buff colour, mottled red and granular ; on incising the right kidney the cortical part presented a pale buff colour, with a mottling of red, it was slightly granular, and in parts encroached considerably on the tubular portion ; the left kidney when incised presented much the same appearance as the right, with this exception, that the cortical portion was pale, and the tubular less red.

Remarks.—In this case we have the fatal result hurried on by peritonitic inflammation, the consequence of the operation of tapping. The case in this respect contrasts strikingly with No. IV., in which paracentesis was eight times performed, and yet no peritonitis excited.

There is an omission in the post-mortem examination: there is no notice of the state of the gastro-intestinal mucous lining.

CASE IV.—*Anasarca and ascites ; urine of low density and albuminous ; was eight times tapped ; kidneys in a state of yellow granular degeneration.*

Ahmed Senna, a Musulman beggar, 30 years of age, a native of Scinde, and originally following the occupation of a cowherd. About three years before he came under observation he suffered from fever, while in Scinde, and was subsequently on several occasions affected with œdematous swelling of the feet and ankles ; he denied being addicted to the use of spirituous liquors, and stated that he had never used them till two months before admission, when he was advised to do so moderately, for the relief of the dropsical symptoms. He was in the habit of smoking tobacco, but not of eating opium. Four years before admission

he had been the subject of syphilis, for which he had been salivated. He was admitted into hospital on the 28th September 1849. There was general anasarca, and the abdomen was much swollen, tense, and fluctuating. He was under treatment in hospital till the 19th of January 1851. Throughout this period the urine was generally less than 20 ounces in the twenty-four hours, was pale, of specific gravity (varying with the quantity) from 1.007 to 1.015, and giving a flocculent deposit, more or less copious, under heat and nitric acid.

From the 10th October 1849 to the 10th November 1850 he was eight times tapped, and about 100 pints of fluid, in all, evacuated. After the first tapping it was discovered that the spleen was much enlarged, reaching beyond the umbilicus in the median line, and as low as the crest of the ilium; but after the latter tapplings it was found to have considerably decreased in size.

In the months of July and August 1850 he suffered from diarrhœa, sometimes dysenteric in character; and during this time the fluid re-accumulated slowly in the abdomen. He died from exhaustion, and without coma. The treatment was very varied, consisting of purgatives, diuretics, with tonics and stimulants, but without any advantage. The operation of tapping was in each instance performed at the patient's urgent request, to relieve the discomfort attendant on the distension of the abdomen.

Inspection.—Abdomen.—There were about 26 pints of serous fluid in the sac of the peritoneum; the diaphragm was pushed up by the effusion, as high as the interspace between the third and fourth ribs. The liver was much reduced in size, and hanging by its ligaments, and separated by a considerable interspace from the concave surface of the diaphragm; bands of old adhesions united the lower part of the right lobe of the liver to the diaphragm. After detaching the liver from its connections, it weighed 28 ounces; the external surface of the liver was pale, and its peritoneal covering opaque; the surface was also granular, chiefly that of the left lobe; the tissue when incised appeared dense and compressed, and pale, but had none of the lobulated appearance of cirrhosis; there were some adhesions of the body of the gall bladder to the duodenum.

Spleen.—It was of about the natural size, weighed 11 ounces,

and its capsule was opaque and thickened; its texture was very indurated, and its incised surface appeared red and abundantly studded with white spots and streaks of fibrous tissue. At the upper end the fibrous constituent was so abundant as to form a pale indurated nodule, of about the size of a pigeon's egg.

Left kidney.—It was somewhat larger than the right, and weighed about 4 ounces. On removing its capsule its surface appeared somewhat lobulated, mottled red and yellow, and granular; when incised it presented a surface also mottled red and yellow, but not granular; the tubular portion was encroached upon by the cortical, chiefly at the central parts; at the upper end there was a cyst, of about the size of a pea.

Right kidney.—It was somewhat smaller in size, and weighed $3\frac{1}{2}$ ounces; the external and internal appearances were very similar to those of the left, but more marked in character. The colon was contracted, and the small intestines were gathered together in the centre of the abdominal cavity.

Chest.—The right lung was firmly adherent by adhesions to the costal pleura, but its texture was spongy and crepitating; the left lung was also healthy. The heart was of about the natural size, and weighed 8 ounces; there were some opaque patches on the surface of the right ventricle; the aortic and mitral valves were healthy.

CASE V.—*Anasarca and ascites; urine of low density and very albuminous; sunk under diarrhœa; the kidneys in a state of yellow granular degeneration; the mucous coat of the colon and ileum with dotted red patches, and granular deposit: a spirit-drinker.*

Shaik Abdoola, a Mussulman sailor, of 30 years of age, addicted at one time to the excessive use of spirituous liquors, but not to that of opium or other narcotic drug; had for two months before his admission into hospital, on the 28th May 1850, suffered from frequent vomiting, and latterly from œdema of the feet and legs. He was received into the clinical ward on the 15th June, when the abdomen was somewhat full, soft, and with an indistinct sense of fluctuation, but without any induration below the margin of either ribs. The feet and legs were also œdema-

tous ; the respiration was calm ; the sounds and impulse of the heart were natural, and there was no dulness on percussion of the chest ; the pulse small and soft ; the tongue moist and clean. He was the subject of a large reducible scrotal hernia of the left side, which had commenced three years previously. He continued under treatment till the 27th June, when he died. The urine in the twenty-four hours was generally above 50 ounces, was clear amber-coloured, of specific gravity from 1.007 to 1.012, and very albuminous. He became affected with diarrhœa, which increased, and caused death in the way of asthenia. The treatment was chiefly directed against the diarrhœa.

Inspection.—The body was emaciated.

Head.—There was some serous fluid effused in the sub-arachnoid space.

Chest.—The lungs were collapsed and crepitating ; the heart small in proportion to the body.

Abdomen.—The large intestines generally were contracted ; their coats were thickened ; the omentum was contracted and matted over the colon ; the inner surface of the large intestine was rugous and irregular, dark grey-coloured, variegated of different shades, with bright red patches, and spots here and there, chiefly in the cœcum ; the mucous coat had a granular appearance, and was firmly adherent to the subjacent coat. For a foot and a half, the inner surface of the lower end of the ileum presented the same appearance as the large intestine ; above, for about three feet, the inner surface of the ileum was rugous, of a dark red colour, with grey granular patches here and there. The portions of the ileum just described occupied the large scrotal tumour. The stomach was contracted, and the mucous coat was rugous, dark grey-coloured, with some dark red patches, covered with adhesive mucus. The liver was granular externally, and hard under the scalpel ; the left lobe was very small ; the left kidney was larger than the right ; its external surface was mottled red and yellow, the cortical portion buff-coloured and granular ; the red colour of the tubular portion was quite distinct ; the right kidney presented the same appearances as the left. The spleen was small, and heavier than natural.

CASE VI.—*Anasarca with ascites ; urine of low density, and generally albuminous ; died comatose ; kidneys small, with excess of cortical portion.*

Antonio de Souza, of 55 years of age, a Portuguese inhabitant of Goa, but resident in Bombay for about eight years, and occupied as a servant in a baker's shop. For many years he had been in the habit of drinking about three ounces of spirits daily; was the subject of incomplete paralysis of the right arm from his boyhood, but with this exception had enjoyed good health till about three weeks before his admission into the hospital, on the 19th February 1849, when he had become, consequent on exposure to cold, he believed, the subject of intermittent fever, which, after fifteen days, was followed by dropsical symptoms.

State on admission.—He was somewhat emaciated, but with general anasarca, and the abdomen full and fluctuating. The respiration was somewhat hurried, and there were dry and moist bronchitic rales general on both sides of the chest, and obscuring the sounds of the heart; the pulse was feeble, and somewhat frequent; the tongue slightly coated, but moist, and the skin of natural temperature. During his stay in hospital the urine ranged in quantity from 12 to 30 ounces, was generally clear, sometimes of acid, at others of alkaline reaction; of specific gravity from 1.007 to 1.017, and very generally gave a scanty flocculent deposit with heat and nitric acid; this deposit, however, was sometimes absent. He continued in hospital till the 15th of March, when he was discharged, at his own desire, with the dropsical symptoms somewhat less, and the bronchitic rales considerably alleviated. He was treated with stimulant diuretics, of which squills was generally a constituent, and also at one time the ferri-potassio tartras; rubefacient applications were also used to the chest. He applied for re-admission on the 27th of March. The emaciation and the dropsical symptoms had much increased; the respiration was more hurried and oppressed, and the cough more urgent; the pulse was very feeble, and urine was very scanty. Under the use of 8 grs. of sesquicarbonate of ammonia, a drachm of spiritus ætheris nitrici, with camphor mixture every third hour, and 4 ounces of arrack daily, and an adequate diet, he speedily began to improve; the pulse gained somewhat in

strength; the breathing became less oppressed; the urine increased to 60 ounces and upwards in the twenty-four hours; and the dropsical symptoms gradually lessened. On the 5th of April the acetate of potass was substituted for the sesquicarbonate of ammonia; the urine still increased; and the dropsical symptoms had altogether disappeared by the 10th of April; and on the 13th quinine and the muriated tincture of iron were substituted for the diuretic; and he was discharged on the 15th at his urgent request. The urine was in general clear, sometimes alkaline, of specific gravity from 1.006 to 1.017, and was, except on one or two occasions, unaffected by heat or nitric acid.

He was admitted again into hospital on the 23rd October 1849. The face was puffed; the feet and legs œdematous; the abdomen swollen. He complained of cough and muco-puriform expectoration. Sounds of the heart natural, impulse feeble. He stated that since his discharge from hospital he had used spirituous liquors moderately, had been to Goa, and been exposed to the inclemencies of weather, to which he attributed the return of the dropsical symptoms, as well as irregular febrile accessions, to which he was also subject; the pulse was very feeble; the asthenic and bronchitic symptoms increased. He became comatose on the 29th, and died on the 30th. The urine during the time he was under treatment on this last occasion ranged in density from 1.011 to 1.013, and was albuminous.

Inspection twenty hours after death.—Head.—The vessels of the pia mater were congested, and there was more than the natural quantity of serous fluid in the sub-arachnoid space, but none in the ventricles. On incising the brain, numerous bloody points appeared, but no softening was observed.

Chest.—The lungs adhered firmly to the costal pleura, and to the diaphragm, and when incised gave out much sero-puriform fluid on pressure. The substance was crepitating, and the mucous membrane of the bronchial tubes was of a dark red colour.

Heart.—It was well covered with fat, chiefly over the left ventricle; the right ventricle was somewhat dilated; the left slightly hypertrophied; no disease of the valves, but the ascending aorta

was somewhat dilated with opaque deposit, in parts ossific, on its inner surface.

Abdomen.—There was about a pint and a half of clear serum found in the cavity ; the liver was somewhat smaller than natural, with some degree of irregularity on its external surface, mottled dark red, and indurated in texture, under the knife.

Kidneys—Were smaller than natural. In the cortical portion of the left kidney there were two cysts, each of about the size of a small bean, but no distinct granular degeneration was found in any part. The cortical part of the right kidney was mottled red and buff on its surface, and it somewhat encroached on the tubular portion, but it was not granular, and there was an appearance of commencing cysts in some places.

CASE VII.—*Febrile symptoms, followed by anasarca and ascites, and dysenteric symptoms ; urine of low density, and albuminous ; death by coma ; the kidneys in a state of yellow granular degeneration ; the mucous membrane of the large intestines ulcerated.*

Elepa, a Hindoo shopkeeper, of 50 years of age, an inhabitant of Hydrabad, in the Deccan, but for 25 years resident in Bombay ; not addicted to the use of spirituous liquors. He stated that about two months before he came under observation he left Bombay, in good health, on a pilgrimage to Nassick ; that about fifteen days after his arrival there, he, consequent on exposure to wet, became affected with febrile symptoms and diarrhœa, followed by œdema of the feet and legs. He was admitted into hospital on the 29th July 1850, feeble, and reduced in flesh ; the feet and legs were œdematous ; the abdomen full, and with distinct sense of fluctuation ; there was no dyspnœa or sign of disease of the lungs or heart ; the pulse was small and thready. The day after his admission the urine passed amounted to 14 ounces, was pale, neutral, of specific gravity 1.010, and gave a copious flaky deposit under nitric acid, but less under heat ; and such continued to be the character of the urine whilst he was under treatment. On the 8th of August dysenteric symptoms set in, and he died on the 17th August, having been very drowsy for twenty-four hours before death.

Inspection twelve hours after death.—*Head.*—There was slight turgescence of the vessels of the brain, but the substance of the organ was of natural consistence.

Chest.—There were old adhesions on both sides, but chiefly on the right, and the base of this lung was also adherent to the diaphragm; there were about 2 ounces of fluid found in the cavity of the pericardium; the heart was small, but healthy in structure.

Abdomen.—There were about 2 pints of clear serous fluid in the sac of the peritoneum; the liver was of natural size and consistence, but its incised surface showed the presence of congestion in the second degree; upon its external surface there were two or three opaque puckered patches of cartilaginous consistence. The spleen was smaller than natural, and its substance healthy.

Kidneys.—The left was somewhat larger than the right, and on removing the capsule the external surface presented a granular appearance, and was somewhat mottled. When incised the cortical portion was found distinctly to encroach upon the tubular, which was here and there of a dark red colour, and arranged in distinct bundles. The right kidney was smaller in size, and presented very much the same appearance as the left, with the addition of two or three small cysts, of about the size of a split pea. The apices of some of the papillæ were also somewhat indurated and fibrous in appearance. The rectum was contracted, and its mucous membrane was thickened, and presented irregular ulcerations, the surfaces of which were covered with a deposition of granular lymph; the mucous membrane of the descending colon and sigmoid flexure was also ulcerated, but the ulcers were more follicular in character. The mucous membrane of the remaining portion of the large intestine was attenuated, and there were transverse striæ of vascularity seen, apparently an early stage of the inflammatory action, which in the rectum had passed on to ulceration.

CASE VIII.—*The subject of chronic dysentery; induration of the right lung; ulceration of the colon; yellow granular degeneration of the left kidney; the right displaced, and situated in the hollow of the sacrum.*

Farahan, 36 years of age, an Arab sailor, two years resident

in Bombay, and accustomed to the free use of toddy and spirituous liquors, was, after fifteen days' illness, admitted into the clinical ward, on the 10th December 1848, affected with dysentery. He continued under treatment, with occasional temporary improvement, till the 12th February, when he died. On the 18th of January there was first noted some degree of dulness of the subclavian and scapular regions of the right side; this extended and increased, and was attended with bronchial respiration, &c., but there was little complaint of cough. The urine was only noted on two occasions, on the two days immediately preceding his death; then it was clear, neutral, not copious, of specific gravity 1.004, and unaffected by heat or nitric acid.

Inspection twelve hours after death.—The body emaciated.

Chest.—The upper lobe of the right lung adhered to the posterior parietes of the chest opposite to the second, third, fourth, and fifth ribs. The third lobe adhered in part also of its base to the diaphragm; the upper lobe was in a state of red induration, speckled with black patches (coloring matter of the lung); the lower lobe partly solidified from sanguineous engorgement; the left lung had an emphysematous fringe at the thin margin of the lower lobe; the posterior part of the lung was dark and congested with blood.

Abdomen.—Upwards of a pint of serum was effused in the cavity. The large intestines and the end of the ileum were laid open. In the descending colon were some circular ulcers with surrounding vascularity, but, with exception of a thin red state of the mucous membrane in places, there was no other structural change. The mucous membrane of the ileum was pale, and free from disease. The left kidney was larger than natural, was somewhat lobulated, and two ureters arose from it; the external surface when divested of the capsule was speckled yellowish red. This kidney when incised presented a pale yellow, small granular appearance; the red tubuli appeared in small patches here and there, but had been much encroached on by the yellow granular degeneration. The right kidney was found in the pelvis, behind the bladder, which was distended; it lay in the hollow of the sacrum and to the right; its upper end was on a level with the base of the sacrum. The right renal artery was given off from

the inner side of the right common iliac, and as the hilus of the kidney looked downwards the artery passed over the convex margin of the kidney. This kidney was not particularly examined, but in size, lobulated character, and speckled appearance of the external surface, it resembled the kidney of the other side. The rectum was to the left of the kidney. The left renal artery was given off from the aorta close above the bifurcation. The preparation of this malformation is in the museum of the college.

CASE IX.—*Vesicular emphysema of both lungs; displacement of the heart; dilatation and hypertrophy of the ventricles; atheromatous deposit, with ulceration, in the aorta; granular degeneration of the kidneys; urine once noted,—albuminous; dropsy.*

Rawojee Canojee, a Mahratta gardener, of 50 years of age, resident for twelve years at Parell, was admitted into the hospital on the 15th October 1850, affected with dyspnœa and œdema of the lower extremities. He had been ill for two years, but no account is given of the nature of his illness. The chest, including the præcordial region, was preternaturally resonant; there was faint respiration, and sonorous and sibilous rales; the impulse of the heart was most distinct at the scrobiculus cordis, and there the sounds were distinct, and no murmurs were audible. The dropsical symptoms increased, and also the dyspnœa, and he died on the 4th November. The urine passed during the night after admission was 16 ounces, of specific gravity 1.005, and unaffected by heat and nitric acid. After the 24th it became more scanty—about 10 ounces in twenty-four hours; it was of specific gravity 1.020, and gave a turbid deposit under heat and nitric acid.

Inspection sixty hours after death.—*Chest.*—Both lungs were emphysematous, and rose beyond the margins of the chest; they were soft and spongy. The heart was displaced downwards and towards the right side; firm adhesions connected parts of the surface of the heart to the pericardium, and there were opaque patches on other parts of the heart's surface. The heart was enlarged from dilatation with hypertrophy of the right ventricle, and hypertrophy with dilatation of the left.

There were coagula of blood in the left auricle and right ventricle. There was slight opaque deposit towards the attached margin of the mitral valve ; the aortic valves were healthy ; the inner coat of the aorta, from its commencement, and throughout its thoracic portion, was closely studded with variously sized patches of atheromatous deposit ; at the origin of the left carotid and subclavian arteries the deposit was ossific in character, and the inner coat was ulcerated to the extent of a quarter of a rupee piece.

Abdomen.—The left kidney was small ; the surface pale yellow, granular, and in places lobulated. On incising the kidney the tubular portion was observed to be distinctly encroached upon by the cortical, chiefly at its central parts. The right kidney was of the natural size, but presented the same abnormal appearances as the left.

Remark.—The dilatation of the right ventricle, and slight thickening of its walls, were probably due to the emphysema of the lungs ; the hypertrophy and dilatation of the left ventricle to the diseased condition of the inner surface of the aorta.

CASE X.—*Anasarca and ascites ; urine of low density, and albuminous ; yellow granular degeneration of the kidneys ; sunk under diarrhœa.*

Witto Rama, a Hindoo labourer, 30 years of age, an inhabitant of Nagotna, of feeble habit, and drinking spirits daily, was admitted into hospital on the 23rd April 1851. The face was puffed, the feet œdematous and the abdomen tumid ; the pulse feeble, and he was the subject of diarrhœa ; the urine ranged in quantity from 10 to 20 ounces, the specific gravity from 1.010 to 1.013, and it gave a flocculent deposit under heat and nitric acid. He sunk under diarrhœa, and died on the 3rd May.

The kidneys were lobulated, were externally mottled red and yellow, and were granular, and the tubular portion was much encroached upon. This was more remarkable of the left kidney, which was larger than natural. The right was rather smaller.

CASE XI.—*Anasarca with ascites ; cirrhosis of the liver ; the kidneys small ; the cortical portion pale and indurated ; urine tested only once, and not albuminous.*

Runchode Govind, a Hindoo barber, an opium-eater, emacia-

ted, was admitted into the hospital on the 27th September 1848. He pointed to the epigastric region as the seat of uneasiness, but there was no fulness or induration there. On the 5th October there was some yellowness of the conjunctiva. He was discharged on the 9th, but was re-admitted on the 3rd November, again complaining of uneasiness at the epigastrium. There was swelling of the abdomen, with evident fluctuation. The feet were œdematous and the face puffed; the urine, generally scanty, was tested only once, on the 13th November, when it was unaffected by heat or nitric acid. He died on the 17th January.

Inspection.—Abdomen.—There were patches of redness on the peritoneal surface of the intestines; there existed some old adhesions, chiefly of the colon, to the stomach.

The liver was contracted in size, and in a state of well marked cirrhosis.

Both kidneys were smaller than natural, and, when incised, were pale buff, uniform, and hard. This was the state of the cortical portion. The tubular was of a bright red colour.

CASE XII.—*Remittent fever, with jaundice, succeeded by diarrhœa, ascites, and anasarca; the kidneys enlarged, in a state of yellow degeneration; urine had not been tested.*

Chokia, Purwaree by caste, was admitted into the hospital on the 7th November 1848, after a month's illness. He was affected with febrile symptoms, remittent in type, and complicated with jaundice. These symptoms had ceased by the 22nd November, when he became affected with diarrhœa, and gradually sunk. On the 2nd February, ascites and anasarca were noted. He died on the 7th February. The urine was never tested. The body was removed to the college dissecting-room, and in the course of dissection the kidneys were found enlarged, not lobulated, but presenting a mottled appearance when the capsule was torn off; the cortical portion was of pale yellow colour, was not granular, but presented the appearance, when incised, of a slice of parsnip; the tubular portion was distinct, and of a bright red colour.

CASE XIII.—*Admitted in an advanced state of disease ; hepatisation of both lungs ; circumscribed pleuritic effusion of the right side ; kidneys enlarged, and in a state of yellow granular degeneration ; urine not tested.*

Baloo Ragoo, aged 40, a Maratha, a native of Poona, but resident in Bombay for ten years, was admitted into the Jamsetjee Jejeebhoy Hospital on the 1st October 1849, affected with diarrhœa and oppressed breathing. He had been ill a month, but was unable to give any connected account of his illness. On the 5th October, Atmaram Pandurang, at the time an intelligent Student of the Grant College, now a Sub-Assistant Surgeon, made the following note of the physical signs:—"Respiration short and hurried ; the whole of the posterior and lateral part of the right side of the chest is duller than natural, and here bronchial sounds, mixed with mucous rale, are heard under the stethoscope ; elsewhere on this side of the chest, and in the whole of the left side, the resonance was natural, and puerile respiration mixed with mucous rale is audible. There is equal movement of the two sides of the chest, and the dulness noticed does not vary by change of position. The vocal thrill is distinct on both sides." He died on the 7th.

Inspection fifteen hours after death.—*Chest.*—The inner edge of the right lung adhered firmly to the pericardium, and its anterior surface from the first to the sixth rib adhered to the costal pleura by old firm adhesions. Below the fourth rib the adhesions did not extend externally beyond the nipple, but above that rib the adhesions were general to the lateral and posterior costal parietes, as well as to the anterior. There were about thirty ounces of sero-puriform fluid in the sac of the right pleura, chiefly between the base of the lung and diaphragm, and between the costal pleura and the lung, below the level of the fourth rib.

The costal and pulmonary pleuræ were there covered with flaky lymph, forming in parts friable bands, which extended across the effused fluid. The liver was displaced by the effusion, and projected below the margins of the right ribs. The right lung was in great part in a state of red induration, in parts passing into grey infiltration. The left lung adhered firmly to the

costal pleura; the lower lobe was in a state of red induration; the upper crepitating, but œdematous.

The kidneys were both enlarged and flabby, appearing mottled externally on the removal of the capsule, and on incision the surface presented considerable encroachment, on the tubular portion, by pale yellow, slightly granular substance.

CASE XIV.—Remittent fever; dysenteric symptoms two days before death; the mucous coat of the rectum and sigmoid flexure of bright red colour; the kidneys studded with cysts, and in a state of granular degeneration; urine not examined.

Joam de Rozario, a Portuguese cook, of 28 years of age, was admitted into the hospital on the 22nd August 1850. He stated that for eight or ten days he had been suffering from daily accessions of fever; he complained of pain of the anterior part of the chest, and had slight cough, without expectorations. On the 23rd no fever, but headache and giddiness complained of. On the 26th and 27th the bowels were relaxed; the evacuations passed with straining, and containing traces of blood and mucus; no distinct pain of abdomen, but general soreness. He became unexpectedly comatose, and died on the morning of the 28th.

The above short narrative of this case is abridged from notes made by Mr. J. C. Lisboa, at the time a very promising Student of the Grant College, now a Sub-Assistant Surgeon. The following account of the appearances found after death is copied from Mr. Lisboa's report:—

Inspection two hours after death.—Abdomen.—Mucous membrane of the rectum and sigmoid flexure presented a bright red colour, containing a small quantity of thin fluid, also of bright red colour. Mucous membrane of the rest of the intestines, both large and small, was healthy. Nowhere was any softening or ulceration detected, nor any enlargement of the follicles.

The stomach was much contracted, and its mucous membrane very rugous, but the structure was healthy.

Liver.—There were several old adhesions between the convex surface of the right lobe and the corresponding part of the diaphragm; the size, consistence, and structure natural, but its upper and lower surface was rendered very irregular by numerous de-

pressions and fissures, which, however, did not penetrate quite through its substance.

Kidneys.—The right kidney almost of the natural size. The capsule was easily removed, and the external surface presented a granular mottled red and white, and very irregular appearance, with elevations varying from the size of a pin's head to a split pea, and larger; they were generally of whitish colour, or mottled. Here and there, there were also seen many small cysts, varying also in size from a pin's head to a split pea. The incised surface also had a finely granular appearance; the cortical substance was pale, much increased in size, and encroached a good deal upon the medullary portion, which in places was not seen, and at others presented a curved aspect, apparently caused by compression of the cortical substance. The left kidney, smaller than the right, presented externally much the same appearance as the right, but it was not so irregular. The cysts were more numerous, and larger; and one, the largest, about the size of the areca nut. This cyst contained a small quantity of serous fluid; its wall seemed to consist of condensed areolar tissue, and some firm fibrous bands were seen crossing its cavity. It was situated at the convex edge of the kidney. When incised, scarcely any part of the medullary substance was seen. The cortical substance presented a pale granular appearance, as in the right kidney.

Chest.—Some old adhesions connected the upper left lobe to the costal pleura. The lungs spongy.

Heart.—The left ventricle contracted; mitral valves healthy; slight thickening and induration of the attached margins of the aortic semilunar valves; the inner surface of the aorta presented, here and there, very small white prominent points, apparently from some deposit on the under surface of the lining membrane; the right cavities and valves healthy.

CASE XV.—*An habitual opium-eater; anasarca, ascites; urine of low density, and albuminous; dyspepsia, diarrhœa, and bronchitis; death, but no inspection permitted.*

Mahomed Cassim, a Musulman coachman, of 30 years of age, resident in Bombay for fifteen years, not in the habit of

using spirituous liquors, but an opium-eater to the extent of 30 grains daily, for ten years, was received into the clinical ward of the Jamsetjee Jejeebhoy Hospital on the 5th October 1848. Three years before he had suffered from remittent fever, and two months before from œdema of the legs and feet, which disappeared under the use of remedies received as an out-patient, but had returned twenty days before his admission into the hospital as an in-patient.

State on Admission.—He was not reduced; the feet and legs were œdematous; the abdomen tumid and fluctuating; the sounds of the heart natural; he had slight uneasiness of the loins; no febrile symptoms, and little complaint of dyspepsia. He attributed the dropsical state to his having got wet. He remained under treatment till the 3rd December, during which time the *urine*, generally pale and clear, ranged in quantity in the twenty-four hours from 15 to 50 oz., in specific gravity from 1.016 to 1.025, and always gave a copious deposit under heat and nitric acid.

Treatment.—He was cupped on the loins; purgatives, the warm bath, and diaphoretics were used; latterly saline diuretics, with tincture of digitalis; and under the use of these the urine increased in quantity, and when he left the hospital the dropsical symptoms were altogether removed.

2nd Admission.—He was again received into the ward on the 1st of January 1849. He had returned to his occupation of coachman, but had been able to continue it only fifteen days, when, consequent on exposure to cold, the œdema of the feet and legs, and the ascites returned, and were present on admission. The urine was seldom below 36 oz., and sometimes upwards of 60 oz. in the twenty-four hours, the specific gravity about 1.016, and it was always albuminous. He now suffered more from dyspeptic symptoms; had occasional diarrhœa; cough was at times complained of, and dry bronchitic rales were present, and he suffered from erythema of the scrotum. He remained in hospital till the 26th of February, when he left it; the dropsical symptoms in no respect improved by very much the same kind of treatment that had been efficacious on his first admission.

3rd Admission.—After leaving the hospital in February, he went to Poona, but deriving no advantage from this change, he returned to Bombay, and for two months submitted himself to various treatment by native hakeems, of which the exhibition of mercury formed part. He was a third time admitted into the ward on the 29th of May. He was now much reduced in flesh; the dropsical state continued; the pulse was small and feeble; the tongue florid and glazed; there was no diarrhœa; the urine continued albuminous, and of specific gravity 1.016. He was removed by his friends in a moribund state on the 9th of June, and no examination of the body was permitted.

CASE XVI.—*A Bengal sailor; anasarca and ascites; asthma; urine of low density, and albuminous; tendency to coma. Removed by his friends in a moribund state.*

Alla Buckus, a Musulman sailor, of 40 years of age, an inhabitant of Bengal, and leading a sea life for twenty years, in the enjoyment (as he stated) of good health, till about three months before his admission into the hospital, on the 8th November 1848, when, while at Ceylon, slight dropsical symptoms made their appearance.

State on Admission.—The face was puffed; the abdomen full; the feet and hands slightly œdematous; the respiration was natural, as also the sounds of the heart; the pulse was sixty, and feeble; the tongue slightly coated; the bowels regular. He complained of thirst, and of frequent vomiting and dyspeptic symptoms, and occasional pain of the loins and limbs. He remained under treatment till the 16th November, when he was removed by his friends in a moribund state.

Whilst under observation, the urine was pale and clear, generally below 20 ounces in the quantity, specific gravity 1.012, and giving a copious deposit under heat and nitric acid. On the 11th there was febrile heat of skin, which continued more or less; there was also drowsiness, and increase of the dropsical symptoms and oppression of breathing. These symptoms lessened somewhat under the free action of the bowels, from gamboge and bitartrate of potass; but the pulse lost strength, and when he was removed there was much oppression of the breathing and subsultus tendium.

CASE XVII.—*Ill with dysenteric symptoms ; urine of low density, and albuminous ; became affected with cholera ; died. No inspection permitted after death.*

Billal, a Mussulman, of African extraction, born at Hydrabad, in Scinde, following there the occupation of a cultivator, and since he left it that of a sailor. He was 32 years of age, addicted to the use of spirituous liquors, and had been resident in Bombay about a month before he came under observation. He was admitted into the clinical ward on the 13th September 1849. He was a good deal reduced, and had been affected with bowel complaint for about seven days. The lungs and heart seemed healthy ; he was the subject of dysenteric symptoms. The urine was tested on the 16th, 17th, and 18th ; was in quantity about 20 ounces, of specific gravity 1.006 and 1.007, and very albuminous ; on the afternoon of the 18th symptoms of cholera with collapse came on, and he died on the morning of the 19th.

There was no examination of the body after death, in consequence of the objection of his friends.

CASE XVIII.—*Asthenia ; anasarca, ascites ; urine of low density, and albuminous ; dyspnœa, and drowsiness ; and removed from the hospital ; a spirit-drinker.*

Cowasjee, a Parsee servant, of 30 years of age, an inhabitant of Surat, but resident in Bombay for about a year, without employment, and in indigent circumstances. He had been addicted to the excessive use of spirituous liquors. He was admitted into the hospital on the 3rd September 1850, affected with a pustular eruption on the legs, and irregular febrile symptoms. While under treatment, the feet and legs became œdematous, and the abdomen obscurely fluctuating, and on the 11th September the urine was examined : 40 ounces had been passed in 24 hours ; it was slightly alkaline, of specific gravity 1.010, and gave a copious deposit under heat and nitric acid. The sounds and impulse of the heart were natural ; the pulse was feeble ; he complained of some difficulty in swallowing. On the 18th there was dyspnœa, a failing pulse, and increasing dropsical symptoms ; the urine continued albuminous, of low density, and become scanty. On the 19th there was crepitous rale audible in the right dorsal

region; the dyspnœa increased; he became drowsy, and was removed by his friends in a moribund state on the 20th September. He was treated chiefly with stimulants.

CASE XIX.—*Disease of the heart; urine of low density, and albuminous; dropsical symptoms. Result not known.*

Hurmuzjee Jamsetjee, a Parsee cook, of 28 years of age, who had been in the habit, for a series of years, of drinking from six to seven ounces of spirits daily, and who stated that he had generally been in good health, till eleven days before his admission into hospital on the 2nd September 1850.

On admission the respiration was short, and chiefly abdominal; there was occasional short cough, and he pointed to the left mammary region, and to the margin of the left false ribs, as the seat of pain; the pulse was 108, and small, and there was slight heat of skin. On examining the chest, there was observed increased præcordial dulness on percussion, and friction sound was heard over a spot an inch below, and internal to the nipple. The sounds of the heart were obscured at the site of the friction sound, but elsewhere in the præcordial region they were distinct; the impulse of the heart was increased. Vesicular respiration was general and unmixed. There was no pain or swelling of the joints, nor did he seem ever to have suffered from rheumatism or dropsical symptoms. A blister was applied to the præcordial region, and two grain doses of calomel were directed every third hour. On the morning of the 4th, the urine was found to be of specific gravity 1.007, and to give a copious flaky deposit under heat and nitric acid. The gums had become slightly affected; the mercury was omitted. He continued under treatment till the 15th September, when, at his urgent request, he was discharged. The urine had ranged in quantity from 20 to 40 ounces, was generally of pale amber colour, of specific gravity from 1.006 to 1.015, and always markedly albuminous; the præcordial dulness was less; the friction sound disappeared on the 6th, but was again present on the 11th, and continued at the date of discharge from the hospital, but the dyspnœa was gone, and he thought himself well.

He was re-admitted on the 4th October: he had continued

easy for about twelve days after he left the hospital, when the dyspnœa and short cough returned. On admission there was increased præcordial dulness, as before, and a rough murmur was heard at a spot an inch in diameter, an inch and a half below and internal to the left nipple, obscuring at that situation the sounds of the heart; but these sounds became distinct as the stethoscope was moved upwards. The urine continued of low density, and distinctly albuminous; the legs and feet became œdematous, and the abdomen full; the dyspnœa increased; there was crepitus heard in different parts of the chest; and, latterly, there was distinct epigastric dulness on percussion. He was removed from the hospital by his friends on the 28th October.

Remarks.—In this, as in the instance of the Parsee inmates of the hospital generally, there was removal so soon as symptoms of an approaching fatal issue appeared. This, and the objection to post-mortem examinations, oppose an obstacle to the study of disease in this class of the community.

The cardiac murmur, at first thought to be exocardial, from its obscuring both sounds of the heart, was in all probability dependent on mitral disease. I have certainly in one case observed both sounds obscured at the apex of the heart by a mitral murmur, as I shall explain more fully in an early communication to the Society, on the cases of heart-disease treated in the clinical ward of the hospital.

CASE XX.—Anasarca and ascites; urine of low density, and albuminous. Left the hospital cured of the dropsical symptoms, and continued well for some time.

Gool Mahomed, aged 28, a Musulman of stout frame, an inhabitant of Cabool, came to Bombay with the view of proceeding to Mecca on a pilgrimage. He had been in the habit of smoking bang and tobacco, but not of using stimulants or narcotics of any kind. During his stay in Bombay, he had followed the occupation of a cook, and he had been under treatment, sometimes as an in-patient and sometimes as an out-patient, of the hospital, during seven months preceding his admission into the clinical ward, which took place on the 8th of December 1848.

State on Admission.—There was general anasarca; the abdomen was full and fluctuating, but without distinct induration anywhere; the sounds and impulse of the heart were natural; and, with exception of here and there dry bronchitic rales, there were no signs of pulmonary disease; the tongue was clean; the pulse natural; he complained of pain of the loins and back, on both sides of the spine; he attributed the dropsical symptoms to exposure to cold. He remained under treatment from the 8th of December to the 14th of April. The urine in quantity was generally upwards of 60 ounces, often as much as 100 oz.; it was clear and pale, of specific gravity from 1.007 to 1.013, and gave a copious flaky deposit under heat and nitric acid.

He was first treated with purgatives, the bitartrate of potass, and gamboge, with the warm bath occasionally, and a diaphoretic at bed-time. Under this the dropsical state lessened. Then he was treated with diuretics, acetate of potass, tincture of digitalis, and spiritus ætheris nitrici. The dropsical state still farther lessened, and on his discharge from the hospital was altogether gone. He was, however, re-admitted into the hospital on the 27th April, affected with bronchitis, febrile symptoms, and general soreness of the body, but no return of the dropsical symptoms.

The urine continued free, of low density, and albuminous. He was discharged cured of the bronchitic and febrile symptoms on the 10th of July 1849, but without any improvement in the character of the urine.

This individual continued to follow the occupation of cook in an eating-house in Bombay, and was last seen, apparently in good health, and without dropsical symptoms, on the 1st March 1850. The only complaint that he made was of occasional uneasiness of the loins. The urine was still of low density, and distinctly albuminous under heat and nitric acid.

Since this was written, I have again seen this patient on the 26th July 1851. He still follows the occupation of a cook. He is somewhat reduced in flesh, probably from the irritation of a guinea-worm, from which he is at present suffering. He has had no return of dropsical symptoms. The urine was about 40 ounces

in the twenty-four hours; that seen was quite clear and amber-coloured, and gave a flocculent deposit under heat and nitric acid; it was of specific gravity 1.007.

Remark.—Two years have elapsed since this patient was discharged from the hospital cured of the secondary affections, and from these, especially the dropsical state, he has remained exempt ever since, following his occupation of cook in an eating-house, yet the urine continues albuminous, and of low density.

CASE XXI.—Febrile symptoms, followed by anasarca; urine of low density, and generally, but not always albuminous; anæmic cardiac murmur. Left the hospital much improved, and continued so for some time.

Martinho de Silva, 20 years of age, an inhabitant of Goa, a cook by occupation, had lately come to Bombay in search of employment. A month before his admission into the hospital, on the 14th October 1848, he had been affected with intermittent fever.

State on Admission.—The face was puffed; the feet œdematous, and this had been the case for thirteen days previously to his admission. The abdomen was full and doughy, but not fluctuating, and there was dulness on percussion for three inches below the right ribs, but none below the left; the tongue white and slightly furred; the pulse 80; the urine scanty; the bowels confined; there was an eruption of scabies on the hands.

He remained under treatment till the 3rd of June 1849. During the first month the urine was generally amber-coloured, and clear, and ranged in quantity from 12 to 20 ounces in the twenty-four hours; in specific gravity from 1.009 to 1.013, and gave a flaky deposit under heat and nitric acid. Subsequently the urine increased in quantity, ranging from 40 to 100 oz., the specific gravity sometimes as low as 1.004, never higher than 1.013; the traces of albumen continued till the middle of December, after which they were absent. During the first fortnight he chiefly complained of dyspeptic symptoms, then in the first fortnight of November of irregular febrile accessions, succeeded by symptoms of mild bronchitis. On the 26th November increased præcordial dulness was noted, and there was a systolic cardiac

murmur most audible at the base of the heart; but both had disappeared at the period of his discharge.

The dropsical symptoms continued till towards the latter end of November, when, under the increasing flow of urine, they lessened, and finally disappeared.

He was treated with diuretics, laxatives, diaphoretics; but it was under the use of the ferri potassio-tartras that the urine increased in quantity, and that the dropsical symptoms and the cardiac murmur ceased. This patient was again seen on the 1st of March 1850, fifteen months after his discharge from the hospital: then he seemed in good health; the sounds of the heart were natural, no murmur was audible, but the urine gave a flaky deposit under heat and nitric acid.

CASE XXII.—*Anasarca and ascites; urine of low density, albuminous. No improvement from treatment; left the hospital.*

Dost Mahomed, aged 40, a Mahomedan Faqueer, an inhabitant of Khorassan, and always in indigent circumstances. His journey from his native country to Bombay occupied about two years, and he was received into the hospital on the 9th January 1849, four days after his arrival in Bombay.

He was somewhat reduced. The legs, feet, and hands were œdematous, and the abdomen was swollen and fluctuating, and these dropsical symptoms had been slowly forming for eight months; the respiration was natural; the action and the sounds of the heart were natural; the pulse of good strength; the tongue clean; the bowels regular; he had no pain of loins, but complained chiefly of symptoms of indigestion and thirst.

During his stay in hospital, the urine, pale and clear, was sometimes acid, at others alkaline, and ranged in quantity from 30 to 70 ounces, in density from 1.009 to 1.014, and always gave a copious flaky deposit under heat and nitric acid.

He was treated at one time with purgatives, as bitartrate of potass and gamboge, and elaterium; then with diuretics. He became discontented, and left the hospital on the 8th February, with the dropsical symptoms very little lessened.

CASE XXIII.—*Anasarca and ascites ; urine scanty, and very albuminous ; asthenia ; addicted to the occasional use of spirits.*

Gowar Alee, aged 28, a Musulman cook, an inhabitant of Aurungabad, but resident in Bombay for about six years, addicted to the occasional, not excessive use of spirituous liquors, but not to that of opium or any other narcotic. Has been well fed, and not exposed to the inclemencies of weather. For about three months before admission into the hospital, on the 19th January 1849, he had been the subject of dyspeptic symptoms, and for twenty days of dropsical symptoms : the former he attributed to his having observed religious fasting for a month continuously.

State on Admission.—He was a good deal reduced ; the face, legs, and feet were œdematous ; the abdomen was full, with obscure fluctuation, but no induration ; respiration, and the sounds and action of the heart, were natural ; the tongue was clean ; the pulse feeble ; and he made no complaint of pain of loins.

During his stay in hospital, the urine ranged in quantity from 8 to 14 oz. in twenty-four hours, in specific gravity from 1.021 to 1.025 ; it was amber-coloured, and clear, and very albuminous ; the flocculent deposit occupying about three-fourths of the tube.

He was treated with diaphoretics, also tonics, quinine and iron in combination, with diuretics, but without any benefit, and he left the hospital on the 12th of February, very much in the same state as on admission. Of his subsequent history nothing is known.

CASE XXIV.—*Anasarca ; urine albuminous ; the subject of diarrhœa and bronchitis. Left the hospital improved in health.*

Goolam Mahomed, a Musulman, 23 years of age, a cotton-weaver, an inhabitant of Mooltan, but for a year and a half generally resident in Bombay. He was 23 years of age, and somewhat emaciated. About five months before he came under observation he had been affected with chancres and bubo, and the latter had suppurated. He was not brought under the influence of mercury. Subsequently the abdomen became tumid, and the

feet and legs œdematous, and this state was in a measure removed by the use of remedies taken at Goa, where he was at the time residing. He admitted that he was in the habit of occasionally smoking opium, but denied that he made use of spirituous liquors. He was admitted into the clinical ward on the 3rd August 1849, with slight œdema of the feet and legs; puffiness of the face, and fulness of the abdomen; feeble pulse; anorexia; bowels regular; tongue slightly coated; no indication of cardiac, or pulmonary disease, with exception of a slight occasional crepitus in the left dorsal region; the spleen was enlarged, as indicated by percussion of the left dorsal region, but it did not project below the ribs.

On the 31st the urine was found of sherry colour, neutral, specific gravity 1.018, and gave a copious flocculent deposit under heat and nitric acid. From the 6th September to 20th October, there was more or less diarrhœa present, at times almost dysenteric in character, at others the discharges were very frequent, copious, and watery, almost choleraic (and cholera at the time prevailed). During this period, the urine was generally below 20 ounces in quantity, of specific gravity from 1.016 to 1.020, and was always very albuminous. He suffered from cough at times, and there were bronchitic rales audible in different parts of the chest. From the 20th October to the 15th November, the date of his discharge from the hospital, the urine increased in quantity, ranging from 50 to 60 ounces, being of specific gravity from 1.007 to 1.014, and still albuminous. The œdema of the legs and feet, and the fulness of the abdomen disappeared, and he left the hospital at his own request, to proceed to Cutch.

The treatment was at one period chiefly directed towards checking the diarrhœa, and latterly small doses of Dover's Powder, with nitric acid and a bitter infusion, were used.

CASE XXV.—*Anasarca; urine of low density, occasionally albuminous; had been affected with fever; was the subject of anæmic systolic murmur. Recovered his health.*

John Edwards, an Indo-Briton, of 21 years of age, an inhabitant of Pondicherry, but for many years employed in the artillery band at Poona, to play on one of the wind instruments. About

six months before he came under observation, he had been discharged from his situation, and was out of employment. For about two months and a half he had been suffering from febrile symptoms, latterly accompanied with œdema of feet.

He was admitted into the clinical ward on the 1st November 1849, affected with œdema of the feet, legs, and arms; puffiness of the face, and fulness of the abdomen, with distinct fluctuation; there was enlargement of the spleen; the pulse was irritable, and there was a systolic murmur most audible at the cartilage of the fourth rib, attended with increased impulse of the heart, but no increased dulness on percussion of the præcordial region. There was also increased heat of skin present, with bronchitic rales in the dorsal regions. He stated that he was in the habit of taking about an ounce of spirits daily. On the 3rd, 4th, and 5th, there was recurrence of febrile accessions, commencing with chilliness. The urine was examined on the 3rd, 4th, 5th, and 6th. It was of specific gravity from 1.006 to 1.008; in quantity upwards of 50 ounces in the night, and gave a deposit under heat and nitric acid, with exception of the 3rd, when there was turbidity from heat, but not from nitric acid. Under the use of quinine, the recurrence of fever was prevented. He left the hospital on the 19th, the dropsical symptoms, with exception of slight fulness of the abdomen, having been removed; the enlargement of the spleen was lessened; the pulse had lost its irritability, and the systolic murmur had been absent for about nine days. The urine, from the 6th to the 19th, was generally upwards of 5 pints in the twenty-four hours; it was examined on the 10th, 11th, 12th, 15th, 17th, and 19th; its specific gravity ranged from 1.004 to 1.007; on the 15th it became slightly turbid under heat and nitric acid, but on the other six days was unaffected by them.

He complained occasionally of uneasiness of the loins, for which dry cupping was had recourse to, with relief.

The treatment consisted of quinine and sulphate of iron, also the use of the spleen mixture.

Remarks.—From the albuminous state of the urine not being persistent, it may be questioned whether the case was really one of Bright's disease, and not rather one of those instances of transient albuminuria related to febrile disturbance of the system.

CASE XXVI.—*Anasarca, consequent on fever; urine of low density, not always becoming turbid under heat and nitric acid. Left the hospital improved in health.*

Shewlaul, a Brahmin, of 22 years of age, an inhabitant of Jeypoor, a hakeem by occupation, had arrived in Bombay only ten days before he was admitted into hospital, having travelled from Jeypoor on foot, exposed during the journey to cold and wet; in consequence of which he had suffered from occasional febrile symptoms, commencing with chills, at irregular times. When questioned in regard to his habits, he denied that he was in the habit of using spirituous liquors, or narcotic drugs of any kind. He was admitted into the clinical ward on the 16th October 1849: the feet were œdematous; the face somewhat puffed, and the abdomen full, without any sense of fluctuation; the pulse was of moderate strength; there was slight increased heat of skin; the tongue was somewhat coated in the centre, and florid at the tip, and the bowels were reported to be regular; there were no signs of cardiac or pulmonary disease, or enlargement of any of the abdominal viscera; no pain of the loins.

On the 17th, the 14 ounces of urine which he had passed during the preceding night was of amber colour, clear, neutral, of specific gravity 1.011, becoming turbid under nitric acid, and giving a flaky deposit with heat. Up to the 22nd of October he had daily irregular febrile accessions, which generally came on with chills, and there was present a slight degree of bronchitis. The urine passed during the night was from 14 to 20 ounces in quantity; it was examined on the 19th and on the 20th, was clear and amber-coloured, of specific gravity 1.010 and 1.013, and became turbid under nitric acid, and gave a flaky deposit under heat.

Under the use of quinine the febrile symptoms were removed. He continued under treatment till the 25th October, when he was discharged at his urgent request. The urine from the 22nd to the 25th passed during the night ranged in quantity from 20 to 50 ounces. It was examined on the 22nd, 23rd, and 25th; was on each occasion clear, and of pale amber colour, of specific gravity 1.008, 1.006, and 1.007, and unaffected by heat or nitric

acid. When he left the hospital, the pulse was improved in strength; the œdema had almost altogether disappeared.

Remark.—In this case, as in the last, the albuminuria was transient, and was present in association with febrile disturbance, and disappeared on the removal of the febrile symptoms.

CASE XXVII.—*Addicted to the use of spirits; had been the subject of secondary syphilis and mercurial influence; asthma, anasarca, ascites; urine of low density, and albuminous; a mitral systolic murmur heard; affected with dysenteric symptoms. Left the hospital.*

Luxamun Subajee, a Hindoo, of 40 years of age, 20 years resident in Bombay, and following the occupation of buggy-driver, addicted to the habitual use of spirits and of ganja. He had been the subject of several attacks of syphilis, and been brought under the influences of mercury three or four different times. Rheumatic pain of the joints had followed one syphilitic affection; and hoarseness of the voice, present on his admission into hospital, had succeeded another. About a month before he came under observation, he had been the subject of dysenteric symptoms. He was admitted into the clinical ward on the 22nd January 1850: his appearance unhealthy; the countenance sallow; there was anasarca swelling of the body generally, but chiefly of the legs, and the abdomen was swollen, with indistinct sense of fluctuation. These dropsical symptoms had been present ten days. There was no dulness on percussion of the chest, but occasional sibilus mixed with the respiratory murmur. A systolic murmur was heard most distinctly in the direction of the apex of the heart. The skin was cool and dry, the pulse 104, and small; the appetite not impaired; the urine was said to be scanty, and there was pain and sense of weight in the lumbar region. On the 26th the urine was examined: 28 ounces had been passed during the night; it was clear, pale, neutral, of specific gravity 1.008, and very albuminous. There was also crepitous rale audible in the right dorsal region. He continued under treatment till the 17th of February, when he left, with the intention of returning to his native country. During the time that he was under observation the cardiac murmur continued

unchanged. There was occasional crepitus heard in different parts of the chest ; the dropsical symptoms persisted ; dysenteric symptoms were frequently complained of. The urine was sometimes copious, at others rather scanty ; it was frequently examined ; was always very albuminous, and the specific gravity ranged from 1.005 to 1.012. The treatment varied according as the pulmonic, the dysenteric, or the dropsical symptoms were most urgent. When he left the hospital the disease had made progress ; he was more asthenic than on admission.

CASE XXVIII.—*Addicted to the use of spirituous liquors ; the frequent subject of syphilitic affections ; no dropsical symptoms ; urine of low density, and albuminous. Left the hospital.*

Hormuzjee Manickjee, a Parsee, of 36 years of age, a buggy-driver by occupation, emaciated, and addicted to the use of spirituous liquors, having for a series of years been in the habit of drinking daily upwards of half a bottle of brandy. He had been under treatment several times for syphilis, both primary and secondary, and a considerable part of the soft palate had been destroyed by ulceration. He was admitted into the hospital on the 6th September 1850, the subject of guinea-worm of the right foot and leg, attended with extensive suppuration. Whilst under treatment for this affection he suffered much from diarrhœa, and complained of tenderness at the epigastrium. On the 28th of September the urine was first examined : it was about 40 ounces in twenty-four hours, pale, neutral, of specific gravity 1.010, and gave a flaky precipitate under heat and nitric acid. It was tested several different times with the same results. Percussion and auscultation failed to detect any disease of the heart or lungs. He never suffered at any time from pain of loins. The foot and leg which had been affected with the guinea-worm being nearly well, he left the hospital at his own request on the 1st October 1850.

CASE XXIX.—*Hæmaturia a year before admission ; anasarca, ascites ; urine of low density, and very albuminous ; bronchitis. Deserted from the hospital.*

Shaik Nusserodeen, a Musulman, of about 30 years of age,

stated himself to be an inhabitant of Bengal, a cultivator by occupation, but that he had left his native place ten years before he came under observation. He had come to Bombay with the intention of proceeding on a pilgrimage to Mecca, but consequent on the death of his brother and his wife he abandoned the design, and became resident in Bombay, following the occupation of sailor, and making occasional voyages to Cutch, Ceylon, and China. He had been generally in poor circumstances, and had indulged in the use of spirituous liquors, opium, and tobacco. He was admitted into the hospital on the 27th September 1850: about a year previously he had been occasionally affected with hæmaturia and uneasiness of the loins, and about three months before admission he first observed his feet to be œdematous; the swelling had progressively increased and extended to the abdomen, which on admission was tense, swollen, and fluctuating; the face was puffed, and the lower extremities œdematous, the breathing was short and hurried; the sounds and impulse of the heart were natural; there was no dulness on percussion of the chest, but bronchitic rales, both dry and moist, were pretty general; the pulse was feeble; the skin dry, and he said that it was generally so. The urine was tested on the 29th—7 ounces had been passed during the night: it was smoke-coloured, of specific gravity 1.015, and gave a copious white flaky deposit under heat and nitric acid.

He continued under treatment till the 18th October. The urine was generally under 20 ounces in the twenty-four hours, of reddish colour, of specific gravity about 1.015, and always very albuminous. The dropsical symptoms increased, and, discontented at the want of success which attended the treatment, he deserted from the hospital on the 18th October. Diuretics, with dry cupping on the lumbar region, diaphoretics, and purgatives, were in succession tried.

Remark.—In this case we have distinctly the symptoms of kidney irritation, as evinced by lumbar pains and hæmaturia occurring a year before his admission into the hospital.

CASE XXX.—*Addicted to the use of spirits ; formerly the subject of syphilis and mercurial influence ; anasarca, ascites ; urine albuminous. Left the hospital improved in health.*

Antone De Souza, a Portuguese cook, of 40 years of age, sometimes making voyages to sea, and exposed to the inclemencies of weather, and habitually addicted from his boyhood to the use of spirituous liquors. Had been affected with syphilis when 20 years of age, and was brought under the influence of mercury for its cure. For about three years before he came under observation he suffered from time to time from lumbar pains, and noticed his urine to be scanty. About two months before admission into hospital he was affected with febrile symptoms, which were followed by swelling of the feet and legs. He was admitted into the clinical ward on the 28th March 1850: there was general anasarca ; the abdomen was swollen, and fluctuation was distinct ; the pulse small and easily compressed ; no signs of cardiac disease, nor of pulmonary disease, with exception of sibilous and subcrispitous rale here and there. The urine was very scanty, of brownish colour, of specific gravity 1.017, and very albuminous. Under the use of diuretics it increased in quantity, but never exceeded 30 ounces in the twenty-four hours ; the brownish colour continued, it was neutral, and always very albuminous ; the specific gravity not below 1.014. He remained under treatment, using various diuretics without any benefit ; he became dissatisfied, and left the hospital on the 20th April.

CASE XXXI.—*The subject of intermittent fever, followed by bronchitis, and slight anasarca ; urine of low density, and very albuminous.*

Moria Pheena, a Hindoo labourer, of 50 years of age, an inhabitant of Benares, but for four or five years employed as a labourer at Aden, which place he left about eight months before his admission into hospital : he had been addicted to the use of opium—10 grains daily for about eight years ; he smoked ganja occasionally, but did not take spirituous liquors. He was admitted into the clinical ward on the 20th June 1851 : he stated that he had been the subject of intermittent fever about four months before, succeeded by cough, with copious expectoration,

some œdema of the arms and feet, and subsequently with swelling of the abdomen. On admission he was a good deal reduced; the abdomen was somewhat full, and obscurely fluctuating, and there was slight œdema of the legs, scrotum, and forearms, with slight puffiness of the face; the lungs and heart shewed no signs of disease on percussion and auscultation; there was no induration detected in the abdomen; the pulse was small and feeble; tongue moist; the bowels rather confined; no pain of loins. He continued under treatment up to the present date (August 7th), with no change in his state: the urine has ranged in quantity from 30 to 70 ounces in the twenty-four hours, in specific gravity from 1.005 to 1.015. Has been generally clear, of pale lemon colour, neutral, and giving a copious flocculent deposit with heat and nitric acid. The urine being free, and the dropsical symptoms slight, it was thought advisable to try whether any impression could be made on the degeneration of the kidney by the use of cod liver oil: he took it to the extent of an ounce, and latterly an ounce and a half, daily, and at the same time quinine was used twice daily in three grain doses; but there being no improvement in the urine, or in his general state, these remedies were omitted, and the syrup of the iodide of iron was substituted. This has not been followed by any amendment, and Dover's Powder and the occasional use of the warm bath has been had recourse to, with lessening of the œdema of the feet.

Conclusion.—It will be of interest to endeavour to follow, as far as may be practicable, the history of those patients, who may have left the hospital more or less relieved from the consequences of this disease. I hope to be able to do this in regard to some of the cases here narrated; and to have the opportunity, at some future time, of stating to the Society the results, with additional facts relative to this interesting and important affection, as presenting itself in the natives of India.

