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Contributors

Sandwith, Fleming Mant, 1853-1918.
Royal College of Surgeons of England

Publication/Creation

London : Printed by Adlard and Son, 1892.

Persistent URL

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FOUR HUNDRED CASES OF PHTHISIS.

BY

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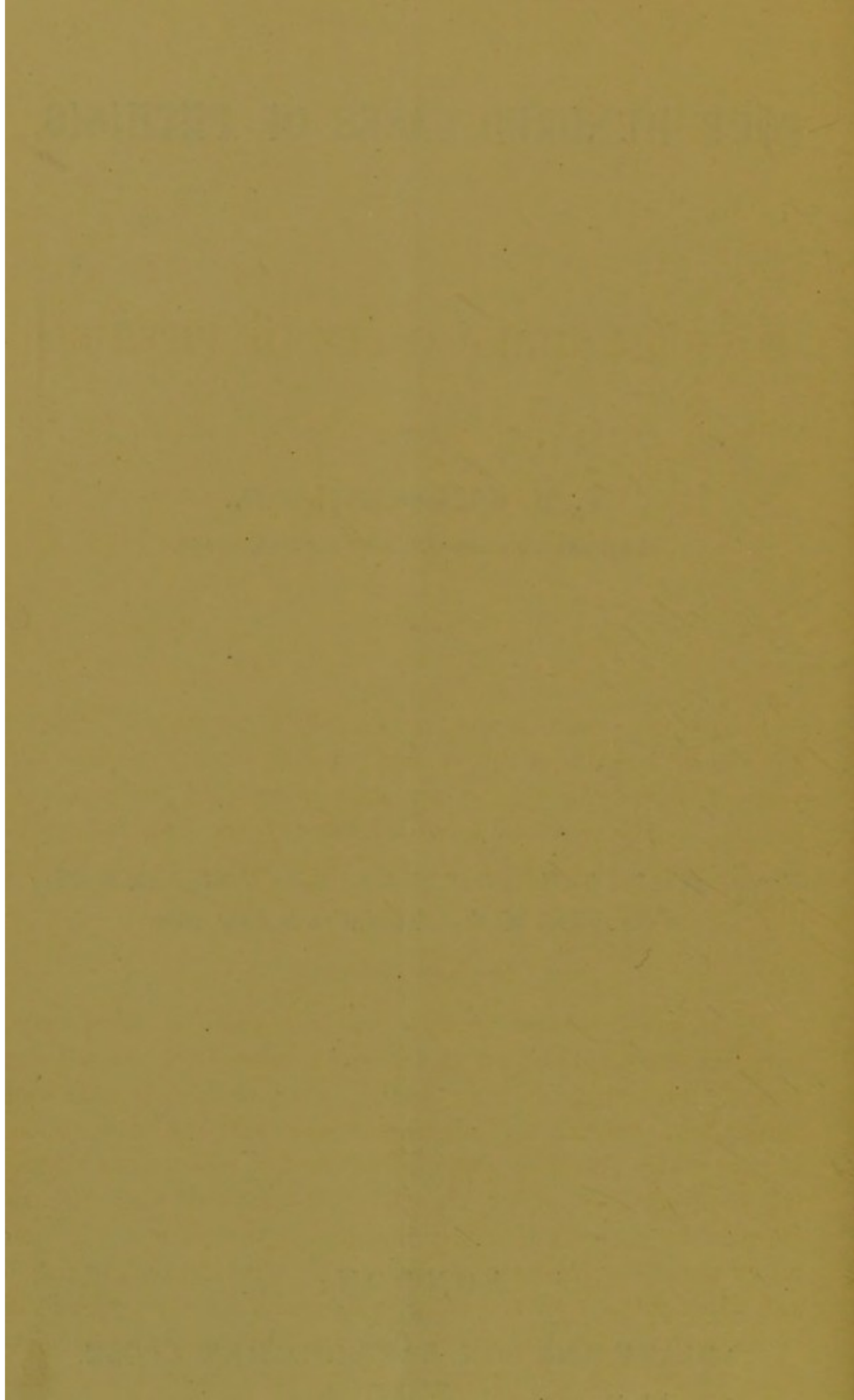
*Paper read before the Section of Medicine at the Nottingham Meeting
of the British Medical Association in July, 1892.*

LONDON:

PRINTED BY

ADLARD AND SON, BARTHOLOMEW CLOSE.

1892.



FOUR HUNDRED CASES OF PHTHISIS.

BY F. M. SANDWICH, M.D.,
PHYSICIAN TO KASR EL AINI HOSPITAL, CAIRO.

DURING the past seven winters 104 phthisical visitors have been treated by me in Egypt, and during the last two years I have had under my care some 298 hospital in-patients. The visitors have all been from England, with the exception of six from France, Australia, and the United States.

English Patients.

It is not intended in any way to make a comparison between the English and the Oriental cases, because all the former, travelling for their health, were well provided with money and friends to help them take care of themselves. Moreover the bulk of them were chronic cases, not suffering from fever, and not in the last stage of the disease. Hence the extraordinary difference in mortality. I have taken pains to eliminate all cases of "threatened phthisis," and of doubtful delicacy after pneumonia or other diseases, because these are the cases that are obviously the best to send abroad for one winter. Moreover I have taken some pains to inform myself as to the after condition of patients

who improved during their stay in Egypt. The 104 cases may be classed as follows:—72 improved, 18 stationary, 7 worse, 7 deaths. The 7 deaths in Egypt consisted of 6 men, all of whom were obviously doomed before their arrival, and some of whom were only permitted to travel to Egypt under the personal escort of doctors and nurses. The seventh was an old case of fibroid phthisis, complicated by progressive muscular atrophy, who died of acute pneumonia in the less diseased of his two lungs.

The number of improvements is very encouraging to those who send patients to Egypt, and will compare favorably with other winter resorts. The bulk of the cases have reached Cairo in November, have spent two or more months from the middle of December at Luxor, in Upper Egypt, and have then spent their time till the middle of April in Cairo itself, at Helouan, or at the Pyramids. In April patients go to Ramleh, near Alexandria, or more often to the Riviera, not reaching England till the very end of May. As people in England still have a very exaggerated idea about the heat of Cairo, I should like to take this opportunity of stating that there is no reason why any patient should not arrive there early in November.

Hæmoptysis is a symptom to which I have paid special attention, because some previous writers have thought it might be induced by the dry air of Egypt, and I find it is a rare symptom among consumptive visitors. Patients with a previous history of it have spent two or three winters in Egypt without any return of blood-spitting; it is, as my statistics will show, a rare symptom among native patients; and when it has occurred among Europeans it has not been of a serious nature. Exercise too severe for the invalid, in the teeth of a cold wind, has seemed to bring it on on some occasions. After nine years' practice in Cairo I have never met with any case of a European who has developed delicate lungs there. Sufferers both from pulmonary and laryngeal phthisis, after a few weeks in Egypt, complain that their mucus in bronchial tubes or in throat becomes inspissated, and therefore expectoration is much lessened. This seems to be the direct result of dry air, and is one of the earliest signs of improvement. Some amelioration in appetite, weight,

strength, sleeping powers, and general spirits then takes place. I have no hesitation in saying that for early cases of phthisis, and for quiescent cases of phthisis, Egypt is one of the best climates within a week's distance from England. Very advanced cases of phthisis should in my opinion be kept in their own homes.

Native Patients.

Reference to the hospital statistics for 1891 will show us at once the enormous amount of tuberculous material constantly at hand. The patients in the medical wards for the year amounted to 1082, including—

Tubercle of lung	225
General tuberculosis	37
Tubercular meningitis	6
Tubercular peritonitis	3
	271

The surgical patients during the same year were 1265, of whom no less than 323, excluding lupus, were believed to be tubercular. It is interesting to notice how much more common it is to find bone disease than joint disease among natives, and also to note the much greater liability of women to suffer from enlargement of lymphatic glands.

	Males.	Females.
Necrosis of bones	52	30
Joints, mostly elbow, knee, foot	9	13
Ulcerations of skin	25	15
Glands of neck	39	78
Glands of axilla	7	15
Glands of groin	2	5
Fistulæ after abscesses	12	5
Abscess of back	9	7
	155	168
Total	323	

It thus appears that one fourth of the patients of a general hospital are suffering from tubercle, but it must be stated that many of them come, especially to the medical wards, to be treated only when they are in a dying condition. The

tubercle patients are, however, so numerous, that if they were natives of Egypt it would become questionable whether it was right or advisable to send patients from Europe to a country which seemed to possess so much tubercle of its own. But every visitor to our hospital wards is at once struck by the number of negro patients, and it is they who swell the tubercle and mortality returns. Negroes and negroids, like monkeys, have a special aptitude for contracting tubercle when they are taken to live in countries less dry and less hot than their own. Phthisis is very rare in the Soudan and in Upper Egypt, but extremely common in all parts of Lower Egypt among those who have migrated from the upper countries. The Englishman, fleeing from London to escape cold, fog, and rain, finds Cairo satisfactorily warm and dry, but it will easily be understood that those who inhabit desert regions between Egypt and the equator find the latitude of Cairo comparatively damp and cold. Aided by insufficiency of food and warm clothing, and an entire absence of common sense, they fall an easy prey to lung disease.

Races.—As I am only responsible for half the phthisis patients in hospital, I have taken the records of the last two years to analyse.

My 298 patients include the following :

			Mortality.		Per cent.
Soudanese	151	...	104	...	68·8
Egyptian	69	...	32	...	46·3
Nubian	39	...	27	...	69·2
Abyssinian	19	...	10	...	52·6
Greek	5	...	2	...	40
Turk	4	...	1	...	25
Syrian	4	...	1	...	25
Moor	2	...	1	...	—
Central Arabs	2	...	—	...	—
Tunisian	1	...	—	...	—
Persian	1	...	1	...	—
Kurd	1	...	1	...	—
	298		180		

The last twenty patients on this list may be dismissed with very few words, because they are not numerous enough to generalise from. None had suffered from hæmoptysis

except three Syrians and a Greek, though all had extensive disease of both lungs. The Kurd was an opium eater, and the Persian had contracted phthisis in London. The Egyptians number only 69, a relatively small number, drawn not only from 300,000 inhabitants in Cairo, but including many patients from the provinces stretching from Assiout to Alexandria. The Soudanese supply rather more than half the total number of patients; they are slaves or ex-slaves, black or brown-black in colour, negro or negroid in type, and coming from various desert homes between Dongola and the equator, say from lat. 20° N. southwards. Some few come from Suakin and various ports in the Red Sea. The total number of Soudanese in Cairo is reckoned by the police to be 6000 men and 2000 women.

The Nubians in Cairo are numbered at 8000 men and 150 women; so that, compared to the Soudanese, they suffer less in number, though their rate of mortality is equally high.

They are a distinct race, dark brown in colour, with a language of their own, inhabiting the banks of the Nile from Assouan to south of Wady Halfa, *i. e.* from lat. 25° N. to 20° N.

They are an important body of men, because they constitute nearly all the indoor and outdoor servants of the European residents. They seldom allow their women to leave home, which accounts for the small number of females in Cairo. Unlike other Mussulmans, they drink alcohol freely, and suffer correspondingly from abscess and other diseases of the liver. The origin of the race is obscure, but is in part Turkish.

The 19 Abyssinians consisted of 4 men and 15 female slaves. Only two of them had ever spat blood. All had disease of both lungs, and 10 died in hospital. I have not yet met phthisis among the Bedouins of the desert near Cairo, and they assure me it is extremely rare.

Family history.—Native patients can seldom give any information about their parents or brethren.

Age.—The patients were nearly all adults, and as no native in Egypt is certain of his own age, that had to be guessed for him. The average age may be taken at about twenty-six years, and the maximum at fifty, the generality

of patients lying between twenty and thirty-five. But some of my hospital patients are foundlings, and among them I have three times found the disease. (1) A child of ten months had well-marked acute miliary tuberculosis, which seems rare among native adults. (2) Another Egyptian, aged eighteen months, besides ecthyma, prolapsed rectum, and former starvation, had numerous tubercles dotted throughout lungs, spleen, kidneys, and mucous membrane of ileum. (3) A black child, aged three years, found dying of famine after a raid by the Egyptian army at Toski upon the dervishes; it died two months later in Cairo of general tuberculosis.

Sex.—The Egyptians numbered 49 men to 20 women, the Nubians 37 men to only 2 women; for, as I have said, the women do not often leave their own country. The Soudanese included 70 men, 78 women, and 3 children. This preponderance of women is all the more remarkable when we remember that the Soudanese males are three times more numerous in Cairo than the females. The confined life in the harems must be the chief reason why negresses are attacked more than negroes. In every harem you hear that the blacks die of consumption, and after them the white slaves from the mountains of Circassia and Georgia; and in every town of Egypt you hear that the greatest number of phthisis patients are blacks. I have only had two eunuchs among my patients. As these are always jet-black, numbers of them die; but as they are slaves of rich people, and generally great favourites, they do not drift to the hospitals.

Occupation.—Peasants and outdoor workers would seem to be fairly exempt from phthisis. I have had many cases among pedlars, hawkers, and small shopkeepers, and among trades I am inclined to suspect cigarette making, which is always carried on in crowded and ill-ventilated rooms. The Nubians are all domestic servants, house-boys, cooks, coachmen, and to a less extent grooms and gardeners. Most of the Soudanese are servants in native houses, and many of the men have previously served in the army.

Predisposing causes.—The following combination is generally present:—(1) overcrowding in houses and absence of

ventilation ; (2) poor food, deficient in nitrogen ; (3) houses built on porous alluvial soil, unprotected in any way from cesspools, wells, and shifting subsoil water ; (4) untreated syphilis ; (5) exposure to damp and cold at night, from being homeless or from absence of woollen clothing.

To these must be added in women (6) frequent childbearing and lactation for about two years for each child, and (7) the habits of the townspeople, which require women to be kept much indoors, and when abroad to wear thick veils over the face and drive in closed carriages. The continual inspiration of expired air under the veil is doubtless one of the causes of the anæmia so constant in harems. Moreover natives in bed or in the open air have the habit of sleeping with their heads completely buried in clothing. Many of my Egyptian patients had been previously weakened by syphilis, which is very common and very cursorily treated by their own doctors.

Mortality.—The death-rate among the Soudanese and the Nubians is extremely high, and during the winter months is even higher than represented in my table. During the warmer months, from April to November, when the climate approaches more nearly their own weather, the death-rate diminishes, and many go out of the hospital alive. The negro makes no effort to live, but, on the other hand, is in no haste to die, for he will spend the last days of his life in moribund apathy, merely swallowing anything that is placed between his lips. His death creates no visible impression upon the other patients in the ward. The Soudanese mortality would have been even higher if they had not included a few cases from Red Sea ports who mostly improved in health.

Stay in hospital.—I have calculated the number of days spent in hospital by the fatal cases to show how late in the illness medical help was often sought. Some of the chronic cases which did not end fatally remained in hospital a year or more.

The Egyptians spent an average of eighteen and a half days in hospital before dying ; only three of them were longer than one month in hospital, and five of them died within twenty-four hours of being warded.

The Nubians spent an average of twelve and a half

days in hospital, varying from four hours to thirty-three days.

The Soudanese lived on an average seventeen and a half days after their admission, no less than nine of them dying on the day of admission, having been found moribund in the streets by the police. These poor fellows live on their friends as long as possible, and eventually crawl to the hospital, not so much for treatment as to obtain a decent burial at the expense of the Government. It thus happens that one fourth of the hospital autopsies are on cases of tubercle.

Duration of disease before death.—It is impossible to trace chronic patients who have left the hospital, therefore I have confined myself to those who died, taking after cross-examination the earliest possible symptom, such as cough, which the patient could remember. Here it must be stated that the patients, not coming from an intelligent class, are apt to ignore slight ailments which do not interfere with their work. The average among the Egyptians is twelve and a half months, with a minimum of one month and maximum of five years. The Soudanese average is seven and a half months only; the maximum of three years is the only case above sixteen months' duration, while there were as many as twelve cases who had no knowledge of being ill for more than three months. It is interesting to compare these figures with the statistics of hospital patients in Europe and America quoted by Fagge. Four observers found the duration of phthisis only two years. Pollock found it two and a half years, and Austin Flint two years and three quarters. If we take off a liberal discount for inaccuracy and want of observation on the part of my patients, the figures still show the galloping tendency which phthisis has among the blacks. Of the Nubians I have unfortunately only five notes, ranging from two months to five years.

Bacilli.—From lack of time, no routine examination of sputa was made, but doubtful lung cases were examined for bacilli, and those in which they could never be found are not included in my statistics. On one occasion I had the sputa of eight cases in one ward examined, and bacilli were found in six of them. Upon several occasions when no bacilli could be found during life, it was seen after death that the

lungs either contained no tubercles, or some tiny points at one apex.

Hæmoptysis.—Out of thirty-six Egyptian patients especially examined with reference to this, twenty-two were certain that they had never had any blood-spitting, while fourteen, mostly men, had spat blood once or twice at the beginning of the illness. Among eighty-three Soudanese seventy-five had never had this symptom, but eight had had it early in the illness, and two of these eight had it again while in hospital. This great freedom from hæmoptysis among the lower humans is interesting. Among twenty Nubians, seven had had previous hæmoptysis and thirteen indignantly denied it.

Vomiting is a rare symptom ; patients ask for solid food, in spite of diarrhœa, until they are actually dying. They are unacquainted with any nourishing soup, and firmly believe that milk acts as a purge. This may be from their habit of drinking sour milk.

Fever is less high among the Egyptians than with the coloured races, for while the average hectic temperature among the former was 99° in the morning and 101° in the evening, the averages among the Soudanese ranged from 99.5° to 101.4° , and among Nubians from 99.4° a.m. to 101.8° p.m.

Weight.—All patients who could leave their beds were weighed once a week, and the results were naturally very disappointing. All the Nubians lost weight, but half the Egyptians and a few of the Soudanese gained a few pounds, owing chiefly to the better fare of the hospital diets.

Post-mortem Notes.

Autopsies on nearly all cases were conducted by native students in my presence, but the stress of other work prevented much time being given to them, and precluded nearly all investigation by the microscope.

I have already shown that most of the cases of phthisis occur among slaves and Nubians, and that the disease kills them in a very short time. I have now to point out the

terribly infective nature of tubercle in their different organs. The following analysis shows that among the Soudanese more than three quarters have tubercle in their lungs, intestines, mesenteric and bronchial glands. Nearly one half have also tubercle of spleen, one third of liver, one fourth of pleura and peritoneum, and about one fifth of kidney.

If we adopt the classification of Dr. Theodore Williams, the cases were mostly (1) scrofulous, (2) acute tubercular-pneumonic, and (3) chronic tubercular phthisis. Fibroid and calcareous changes are extremely rare.

Lungs.—Among Egyptians 14 per cent. had only one lung affected, but only one patient had both lungs free from tubercle, while 30 per cent. had cavities, large or small. Among the Soudanese only 4 per cent. had only one lung tuberculous, but nine had no apparent lung disease, and there were cavities in 42 per cent. of the cases. Ten per cent. of the Nubians had only one lung diseased, and three of them had both lungs free from tubercle, but 53 per cent. had cavities.

Larynx.—The presence of ulcers in the larynx or trachea was noted very few times comparatively, and it was an exception to find any alteration in the voice during life.

Pleura.—Tubercle of the pleura was evident in about one-sixth of the Egyptians, and one fourth both of the Soudanese and Nubians.

Diaphragm.—Four of the Soudanese dead showed small tubercles over the under surface of the diaphragm.

Heart.—The heart was, as a rule, the most healthy organ in the body, but in one case there was well-marked tubercle of the organ itself. In one Egyptian there was mitral and aortic disease. Among the Soudanese there was mitral disease in one case, adherent pericardium in another, tubercle of pericardium in two cases, and in a third patient there was a layer of tubercle an inch thick between the heart and pericardium.

Liver.—Among the Egyptians 14 per cent. had tubercles scattered through the liver, 10 per cent. of the livers were fatty, 7 per cent. nutmeg, and 18 per cent. were greatly enlarged, while gall-stones were present in one case. In examining Soudanese corpses I found as many as 33 per

cent. tuberculous, 23 per cent. fatty, and 11 per cent. considerably enlarged. One man with general infective tubercle had a nutmeg liver, containing some small tubercles and an abscess the size of an orange. Among the Nubians some 14 per cent. of the livers were tuberculous, only 4 per cent. fatty, 4 per cent. nutmeg, 9 per cent. extra large, and there was one case of abscess and one case of cirrhosis. It must be remembered that many of the Nubians drink alcohol, and liver abscess is not uncommon among them.

Spleen.—In the Egyptians I found 24 per cent. of the spleens containing tubercles, and 20 per cent. more considerably enlarged. In the Soudanese as many as 45 per cent. had tuberculous spleen, often in big cheesy centres, while another 3 per cent. had spleens more than double the normal size. Of the Nubians only 14 per cent. had tuberculous spleens, while another 18 per cent. were decidedly enlarged.

Kidneys.—In 14 per cent. of Egyptians I found tubercle in one or both kidneys, while in 33 per cent. more one or both were white and large. Some 14 per cent. of the patients had a trace of albumen in the urine during life, and another 14 per cent. had about one tenth albumen. Among the Soudanese one patient had supra-renal tubercle, 17 per cent. had tubercle, which in one case was as large as a hen's egg, 3 per cent. amyloid, and 16 per cent. had white kidneys, not always large. During life 13 per cent. had a trace of albumen, and another 13 per cent. had quantities varying from one tenth to one third. Among Nubians, excluding congestion and simple hypertrophy, only 6 per cent. had tubercle, 6 per cent. had large white kidneys, and one patient had consecutive purulent nephritis; but, curiously enough, no less than 35 per cent. had a trace of albumen during life. Here it must be remembered that very many male patients suffer from *Bilharzia* cystitis extending to ureters and kidneys, and this doubtless accounts for the large number of patients whose urine was affected.

Bladder.—In one Soudanese I found tubercle inside the bladder, and outside only in cases of general abdominal tuberculosis. Once in a black I found a vesical calculus, again due to *Bilharzia*.

Stomach.—One Nubian had tubercles on the outer surface of the stomach. I only mention it because of its rarity.

Intestines.—After the lungs, the ileum was the most common seat of tubercle or ulcers, but, unlike phthisis in Europe, ulceration was also very common below the ileo-cæcal valve, and sometimes was present in the upper colon when no ulcers could be discovered in the small intestine. Among Egyptians 43 per cent. had ulcers in the ileum, and 18 per cent. below the valve. Among the Soudanese as many as 77 per cent. had ulcers in the lower part of the ileum, besides 6 per cent. with tubercle on mucous or serous surface, and a further 10 per cent. with ulcers below the valve. Three negroes also had dysenteric ulcers in colon and rectum. Again, 72 per cent. of Nubians had ileac ulcers, 12 per cent. tubercles, and as many as 42 per cent. of these had ulceration below the valve, while two patients had chronic dysentery. One man, besides much tubercle in the upper lobes of lungs and two large ulcers in the trachea, had 130 separate ulcers extending from the beginning of the jejunum, and becoming more numerous towards the valve, and ending with three ulcers in the upper colon. In this patient the mesenteric and bronchial glands were not affected, and I often noticed that where there were many intestinal ulcers there were often no gland changes. In another Nubian, who had large cavities at both apices, caseous centres all over the lungs, greatly thickened pleuræ, and no obvious change in the glands, there were very small tubercular ulcers, which could be traced to the duodenal side of pylorus, where there were three small ones. In the ileum itself there were very few ulcers, but much small tubercle on the mucous membrane; immediately above and below the valve there were several large ulcers, and in the rectum there were a few dysenteric ulcers.

Peritoneum.—Tubercle of the peritoneum varied from small miliary points to a thick caseous mass an inch thick, matting together all the contents of the pelvis and lower abdomen. Among the Egyptians tubercle was present in 19 per cent., in the Soudanese 29 per cent., and my notes of Nubians only mention 9 per cent.

Glands.—Bronchial glands were enlarged and cheesy in

about three fourths of all autopsies. Mesenteric glands were affected in about four fifths of all cases, it being a great exception to find them not cheesy among the Soudanese. Four Egyptians had great enlargement of cervical or submaxillary glands. Eight Soudanese had swollen cervical or axillary glands, while one had axillary lumps, and another supra-clavicular swellings. Only one of the Nubians had enlarged cervical glands. These lymphatic glands when cut open resemble completely the caseous mesenteric and retro-peritoneal glands.

Brain.—About one half of the brains were examined. In Egyptians I never found tubercle, but in one case there was an abscess under the dura mater. Among the Soudanese I found tubercle four times in pia mater or choroid plexus, and another man had old syphilitic sclerosis near the corpus striatum. I never found any notable change in Nubian brains.

Pancreas tubercle I noticed once only in a Soudanese.

The *ovaries* were not always examined. My notes speak of tubercle once in an Egyptian, and of a case of ovarian tumour, while the Soudanese women furnished four cases of tubercle of ovary and of uterus.

Caries.—I have already said that necrosis and caries are very common among the negroes in the surgical wards, and certain cases of paraplegia are admitted into the medical wards. Among the Egyptians, besides a rickety dwarf and a case of angular spinal curvature, I had four cases, viz., multiple caries of femur, necrosis of tibia, necrosis of skull, and a boy who recovered after amputation of thigh for necrosis. Soudanese vertebræ furnished us with five cases of lumbar and five of dorsal caries, besides five cases of ribs, three of sternum, and one of hand. The Nubians included one case of rib disease, another of sternum, and a third in which the patient died after two years' paraplegia, with healthy lungs and other organs, but with old caries of ninth and tenth dorsal vertebræ, which had evidently begun in the anterior surface of the bodies and intervertebral discs, and had then spread to posterior surfaces, to right ninth rib, and to two cheesy bronchial glands.

Entozoa are so common at autopsies on natives that it is

impossible to avoid a brief mention of them. *Ascarides* were present in four Egyptian corpses, once ten in number; and another time, in a boy aged seven, there were thirty-two of these worms—fourteen were curled up in his stomach, twelve in the jejunum, three in the ileum, one in the colon, one in his œsophagus, and one was trying to enter a Eustachian tube.

Once I was fortunate enough to catch an *Ascaris* which had died in the very act of boring his way through a tubercular ulcer into the peritoneal cavity. Another time a patient died three days after admission to hospital. I found a pint of liquid green pus in the abdomen, and one large *Ascaris* lying in the peritoneal cavity, between the stomach and transverse colon. The stomach was normal, and no other worms were found, but a perforation was distinctly seen from the serous side of intestine, six inches below the ileo-cæcal valve, and this was found to correspond with one of many deep annular ulcers extending from the jejunum to the descending colon. The notes of Soudanese cases speak of *Ascarides* five times, *Tænia mediocanellata* four times, and *Anchylostoma duodenale* twice. There was one case of *Anchylostoma* in a Nubian peasant.





