REMARKS

ON

"KIDINGA PEPO": A PECULIAR FORM OF EXANTHEMATOUS DISEASE.

Epidemic in Zanzibar, East Coast of Africa, from July 1870, till January 1871.

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EARLY in the month of July 1870, after the complete disappearance of cholera from the island of Zanzibar, a new form of fever, quite unknown to the bulk of the population, became epidemic, more especially in the town, where it attacked almost the entire population. The natives of India resident here were entirely unacquainted with it in their native country, and they named it "homa maguu", or leg-fever, from one of its most prominent symptoms—viz., severe pains in the lower extremities. The Arabs from Oman and the Persian Gulf confounded it with "bardiabis", or rheumatism, but still acknowledged that many of the symptoms were heretofore unknown to them; and the Arabs from Hydramaut, in the Gulf of Arabia, spoke of it as a disease with which they were well acquainted in their native country, and they named it "ndefu", a word to which no very distinct meaning in Arabic can be attached. This word was speedily changed by the Suaheli of Zanzibar into the familiar word "madifu", meaning "beards"; but the name was used only by the slave population. The natives of the mainland seem to have been entirely unacquainted with the disease, as no native term was applied to it. Those inhabitants of Zanzibar who were pretty well advanced in life at once recognised it as a disease which was epidemic on the east coast of Africa about forty-eight years ago, and which was then called "kidinga pepo".

In regard to this, all the old inhabitants, whether Suaheli, Hindees, or Arabs, agreed; and their nomenclature, "kidinga pepo", was at once adopted as the proper name of the disease. The word "pepo" was soon changed into "popo", which made its significance much more obscure, or even absurd—as "pepo" means an evil spirit, and "popo" a butterfly or a bat. The word "kidinga" is now obsolete in general conversation in Zanzibar, but in signification it is nearly allied to that of "ganzi" or cramp. Many diseases are supposed by the Suaheli and Negroes to be originated through the agency of evil spirits, and are named accordingly. This mode of nomenclature is almost invariable in the case of diseases in which the seizure is sudden. The term "kidinga pepo" properly means "cramp-like pains, produced through the agency of an evil spirit".

The first case of this disease seen by me was in the third stage; and, being unaware of the existence of any peculiar epidemic, I at once thought that it was a case of acute articular rheumatism, although I had never seen a case of the kind during a five years' residence in Zanzibar. On the same day, I saw another case in the first stage of the disease; and I felt certain that it was a case of erysipelas of the face, never imagining that both were one and the same disease. Erysipelas is also a very rare disease in Zanzibar—so much so, that the natives have no distinct name for it, which they would have, were it common, for a disease so well marked in its symptoms. Until the epidemic of cholera, I had seen one case only of traumatic erysipelas, and not even one of idiopathic. When I saw my patients next morning, I was speedily undeceived regarding my diagnosis, as new symptoms were present which did not correspond with any disease with which I was previously familiar.

On consulting my medical authorities on the subject, I found that the disease most closely allied to it, if not identical with it, was that called "dengue—scarlatina rheumatica", described by Dr. Aitken in his *Science and Practice of Medicine*, vol. i, p. 351, and thus defined: "A peculiar febrile disease, conjoined with sudden severe pains in the small joints, which swell; succeeded by general heat of skin, intense pain in the head and eyeballs, and the appearance of a cutaneous eruption on the third or fourth day."

Dr. Aitken describes it as having been chiefly prevalent in Rangoon, Calcutta, Berhampore, Patna, Benares, and Chunaighur in the East Indies; in the island of St. Thomas in the West Indies, the Southern States of America, the ports on the Gulf of Mexico, the towns of New Orleans, Savannah, Charleston, Philadelphia, and New York. Dr. Aitken further states, that it was epidemic in America in 1824-28, and that nothing was heard of it till 1847 and 1850, when it again visited the Southern States; and that an epidemic is described as having occurred in Virginia in 1861. It further appears that it is not known in Europe as an epidemic disease, and that even in its peculiar localities it has been very limited in its range.

If it had been a disease of common occurrence in India, the natives of that country, temporarily resident in Zanzibar, would have known something of it, which they did not. It appears even in India to have been localised, as an epidemic, in certain districts; for, according to Dr. Aitken, it has been described as having occurred only in Burmah and the Bengal Presidency: no mention being made of it in the Bombay Presidency and Scinde, from which the greater number of the natives of India resident here come.

It is probable that the disease called "dengue", described by Dr. Wood of America, and by Twining, Mouat, and Goodeve, may be identical with "kidinga pepo" of Zanzibar; but the symptoms detailed by Dr. Aitken do not coincide with sufficient precision with the unvarying and apparently essential symptoms of the disease as it occurred here. I may, therefore, be excused for summarising these symptoms from Dr. Aitken's work.

First Symptoms.—Headache; intolerance of light; restlessness; chilliness; debility; pains in the back, limbs, and joints; swelling of the small joints; soreness and stiffness of the muscles; skin hot and dry; pulse frequent; face flushed; eyes red and watery; tongue, though red, usually clean. A rash or papular eruption sometimes appears, although not generally, at this stage. *Painful swellings in the lymphatic glands of the neck, axilla, and groins, are common; the testicles also swell, and continue so till the subsidence of the other symptoms.* The febrile state lasts from twelve hours to three or four days, after which it subsides, leaving the patient very feeble; after which there is a remission for two, three, or four days.

Second Class of Symptoms.—Return of fever and pains; thickly coated tongue; nausea and epigastric tenderness. On the fifth, sixth, or seventh days, the eruption appears in the form of a scarlet efflorescence on the palms of the hands, which spreads rapidly over the body, and gives relief to the symptoms of febrile irritation. The eruption is extremely variable in character; being sometimes smooth, red, and continuous, as in scarlet fever; sometimes in patches, rough and of a dark hue, as in measles; and occasionally either papular, vesicular, pustular, or furunculous, and often with a mixture of two or more of these forms. During the subsidence of the disease, there is some rheumatic stiffness or soreness, with weakness or mental depression, for a longer or shorter period. The average duration of the disease is about eight days. Dr. Aitken also states, evidently as a peculiarity, that during the last epidemic in Calcutta there was decided implication of the mucous membrane of the mouth and throat, with an almost entire absence of the articular pains.

Such is the description of dengue given by Dr. Aitken, and, as he states, "nearly in the words of Dr. Wood", the most exact writer on the subject; which leads me to conclude that Dr. Wood's description of the symptoms is probably a generalisation from a number of different writers on the subject, and that the disease varies to some extent in its symptoms, according to the locality in which it appears, or that the disease called "kidinga pepo", lately epidemic in Zanzibar, is an undescribed disease. It is highly probable that the former supposition is correct; that the symptoms have been confused in their order of sequence, and that several have been mentioned which are adventitious, depending on complications, or modified by predisposition from former attacks of disease. This is very likely to be the case when the symptoms are generalised from the recorded observations of various medical practitioners in different localities, and during epidemics extending over many years.

I will endeavour to give an account of the symptoms of "kidinga pepo" as observed by me during the recent epidemic; noting, in the first place, those symptoms only which were invariably present in every case seen by me, and in their regular order of sequence, and afterwards those which were variable in appearance, and apparently not essential symptoms.

The disease was not ushered in by any observable premonitory symptoms, but was, in a very marked manner, a sudden seizure; the first symptoms being pain and stiffness of the muscles, more observable in the palms of the hands and soles of the feet, and elicited when any attempt at motion was made. In three cases under my charge amongst Europeans, these symptoms were observed on rising from the dinner-table. One of them, a very intelligent boy of about seven years, complained that he had difficulty in getting off his chair, owing to stiffness in the body. This was speedily followed by a general febrile state, varying greatly in intensity; the skin became hot and dry; the tongue red and spotted, but generally clean; the face of a bright scarlet colour, disappearing on pressure, but returning when the pressure was removed. The discoloration was in every case peculiarly marked, extending from cheek-bone to cheek-bone across the bridge of the nose,

and usually accompanied by a puffy swelling, indicating infiltration in the adjacent subcutaneous areolar tissue. This appearance was almost identical with the usual symptom of an attack of erysipelas of the face, and it was so well marked and invariable that I always regarded it as symptomatic of the disease. In addition to the stiffness first complained of, there was pain over the whole of the body, more especially in the shoulders, back, ankle-joints, and the soles of the feet; and towards the close of the first twenty-four hours there was swelling of the smaller articulations, and pain was always felt on pressure of the joints of the fingers and toes. There was also very obstinate constipation, and it was always necessary to administer very large doses of purgatives before any motion could be effected. The average duration of this, the first or febrile stage, was about forty-eight hours, the symptoms then beginning gradually to subside.

The febrile stage was followed by a period of remission of from two to three days, during which the febrile symptoms were entirely absent, there being only general debility and occasionally slight muscular pains. The remission was usually so complete that it was with great difficulty that the patient could be persuaded to remain within the house, and the natives, as a rule, returned to their usual avocations.

On the fourth day, there was generally a slight return of the febrile symptoms, but always much less severe than during the first stage, and in many cases there was no fever whatever.

On the fifth day, the exanthematous eruption invariably appeared. This eruption resembled neither that of measles, rubeola, nor scarlet fever; but always appeared to me much more like that of erysipelas, with this important exception, however, that the discoloration was much less intense, and spread over the entire body within forty-eight hours. In regard to the wavy outline, the boundary between the affected and the uncontaminated tissues, the resemblance was complete. This eruption, even in the mildest cases, was always observable on the palms of the hands and soles of the feet; but it never originated there, its course being always from the head and face downwards. When this eruption had reached its maximum of intensity, the superficial lymphatic glands of the neck and face began to swell, and invariably the occipital glands. I never saw a case in which this did not occur. Swellings of the lymphatics of the neck, axilla, and groin, were general, but not invariable.

At about the same time that the lymphatics began to swell, the mucous membrane of the mouth and nose was implicated, and, in severe cases, that of the throat. In mild cases there were merely redness and tenderness of the mucous membrane, but in severe cases there was an aphthous eruption, giving rise to great tumefaction of the lips and nose, conjoined with excessive pain, the mucous surfaces becoming quite raw.

During the fifth and sixth days, the muscular stiffness and pain continued, and there was also severe articular pain on the slightest movement. On the seventh or eighth day, there was desquamation of the cuticle, and the acute stage terminated.

The symptoms described agree very closely with those of dengue, but there are several important distinctions. In no case during the whole of the epidemic did I observe among the symptoms of the first stage of the disease "painful swellings in the lymphatic glands of the neck, axilla, and groin, and also of the testicles". These symptoms never, in any case, appeared until the third period of the disease, when the erysipelatous eruption had reached its maximum degree of intensity. The eruption of dengue is stated to be variable; "sometimes smooth and continuous, like scarlet fever; sometimes in patches, rough and of a dark colour, as in measles; occasionally either papular, vesicular, pustular, or furunculous, and often with a mixture of two or more of these forms". In the epidemic of "kidinga pepo" at Zanzibar, the eruption was invariable in form, and as described. "Implication of the mucous membrane of the mouth and throat, with almost entire absence of articular pain", is stated "as peculiar during the last epidemic of dengue in Calcutta"; but in that of "kidinga pepo", in Zanzibar, these symptoms were invariable, to a greater or less extent, and there was always articular pain.

I may state that during the whole of my medical experience I have never seen a disease so marked in its symptoms and in their regular order of sequence as that under consideration. These symptoms were invariably so characteristic that it was an easy matter, when the disease was seen in any of its stages, to describe exactly what had preceded or what would inevitably follow. As a matter of course, there were many cases in which complications occurred, either from constitutional tendency or from previous attacks of disease, which modified the symptoms greatly, or even introduced new ones in no way belonging to the disease *per se*. Many of my patients had previously suffered from attacks of malarious fever, and in such cases the febrile symptoms were unusually severe, and partook of the same type as former attacks. In one case there had been a former attack of sun-stroke, and the head-symptoms were so unusually severe that an attack of paralysis was imminent. In other cases there had been previous disease of the liver or spleen, and there were great epigastric tenderness, nausea, and vomiting. All the symptoms displayed in individual cases, apart from those described as the true symptoms, I regarded as abnormal and variable, selecting as the typical cases those of children who had not been previously attacked by tropical disease.

The sequelæ of dengue seem to have been much less severe and prolonged than in "kidinga pepo." In cases of the latter, which had been allowed to run their natural course either through non-treatment or improper treatment, the symptoms for weeks and even months were most painfully severe, and far exceeded anything experienced during the acute stage of the disease. I was myself the first European attacked, and at an early period of the epidemic, when I knew but little of the very painful and prolonged effects of the disease. The attack came on very suddenly, a few hours after visiting a native lady who was suffering from a very severe attack. During the primary stage, I was necessarily confined to bed for one day; but although the muscular and articular pains were very acute, I was obliged to attend daily to my dispensary patients. On the fifth day, the general eruption appeared, and also the aphthous eruption on the mucous membrane of the mouth and nose. The muscular and articular pain was excessive, and it was with the greatest difficulty that I walked a short distance to attend a case of emergency. I had to remain out all night; but found it better to move about constantly, as the pain on rising from my chair was very severe after a short interval of rest. From having neglected, to a certain extent necessarily, the proper precautions, I suffered most severely for more than two months afterwards. There was general muscular pain and stiffness, but all was comparatively slight to the excruciating pain endured at the insertion of the deltoid muscle of the left arm. The slightest movement of the arm caused unbearable pain, and for several weeks the arm had to be supported by a sling. At that early period of the epidemic I had seen no very severe cases, the attacks being much more mild among the native than the European population. My first knowledge was, therefore, derived from my own experience, and I speedily became aware of the great importance of early and energetic treatment in order to insure the absence of such painful results.

The parts most painfully affected during the chronic stage were the shoulder, wrist, and ankle-joints; and the pains were generally metastatic and recurring. It was very common for one joint only and the neighbouring tissues to be affected, and the one most frequently attacked was the shoulder-joint. In some cases the pain was very distinctly articular, and friction was felt on movement of the joint, as if there had been absorption or arrested secretion of the synovial fluid. It was more common, however, for the severe pain to be complained of in the muscles, and in particular at the insertion of the deltoid in either arm. In addition to these semi-rheumatic pains, there were also chronic swelling and tenderness of the superficial lymphatics; and when the affected glands lay in exposed places, liable to pressure, as in the foot, they occasioned much suffering.

The disease seemed to be communicable, for, as a rule, the entire household was attacked; but it was not at all common for two individuals in the same house to be attacked simultaneously: as one recovered, another was attacked. The Europeans suffered much more acutely than the natives, and very few escaped an attack. In no case did the disease recur in the acute form, and there were no fatal cases among either children or adults.

The natives who remember the last epidemic speak of it as having been much more severe than the present, and affirm that there were many deaths, especially among children. They also state that in many cases the stiffness of the joints was permanent, and that the joints remained large and hard, probably referring to chalky deposits.

The last epidemic was prevalent on the east coast, but this I have not as yet heard of to the north. On the mainland opposite Zanzibar it has prevailed in some districts as an epidemic, and especially at Mboamaje; but there it has been confined to the negroid population.

Treatment.—After having treated a few cases as I would a case of acute rheumatism, with very unsatisfactory results, I adopted a different plan, which I continued throughout the entire epidemic. During the first day, I prescribed purgatives and five-grain doses of quinine, treating the case precisely as if it had been a case of malarious fever. Whenever the febrile symptoms disappeared, I administered iodide of potassium in four-grain doses, and continued it during the remission, and for a few days after desquamation of the cuticle had taken place. The effect of iodide of potassium was most marked, and, when it was administered at the time stated, I never had any trouble with the usual sequelæ, and the patient suffered but little from articular pains during any period of the disease. I know no medicine more entitled to

the name of a specific than the iodide, its effects in subduing the disease being more marked than those of quinine in the treatment of malarious fever. Even in neglected chronic cases, where the pains had continued for months, relief was invariably afforded by the use of iodide of potassium.

ABSTRACT OF A CLINICAL LECTURE ON DISEASES OF JOINTS.

Delivered at King's College Hospital, December 15th, 1871.

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GENTLEMEN,—I intend to take into consideration to day the interesting subject of Joint-Diseases, as we happen to have some very good specimens of almost all the ordinary varieties in the hospital under treatment; and I propose to contrast and compare them. In one of the patients now before you we have a case of fibrous ankylosis. The joint affected is that of the shoulder. It occurred at an early age, a long time before she applied for advice. When she presented herself at the hospital, the ankylosis had already become established. In certain instances, the formation of ankylosis of this kind is the best thing that can happen—as in the knee-joint, and to a less extent in the hip, wrist, and ankle-joints. When ankylosis of the fibrous character occurs in these joints after disease, it is as good a result as could be hoped for. Sometimes by operation we can get a movable joint in the case of the hip, and in one or two cases coming under my care we have had a movable joint after excision in the ankle. But in the elbow, and to a less extent in the shoulder, this ankylosis is to be deplored, and it is considered to be a sufficient reason in itself for operation. It is necessary for you to understand fully what the reason is of the different treatment in these cases of joint-disease; to know what you may expect from nature, and when you have got a good result. It is, probably, the first lesson that a surgeon learns in his practice, to know when he has a joint before him that can be benefited by interference and when not. In the case of the shoulder-joint, the results of a fibrous ankylosis are not so serious as in the case of the elbow, because of the extreme mobility of the scapula, which allows a very considerable latitude of motion. The girl before you has a great deal of motion from this cause. In the corresponding hip-joint this could not be, because the pelvis is not so movable upon the trunk; on the other hand, we have here the very important advantage of a firm support. In this girl's shoulder there is a normal position of the acromion process, though, apparently, it sticks out more than the opposite one, because the deltoid below is wasted. I can feel almost subcutaneously the tuberosity of the humerus and the head of the bone. The arm hangs as if paralysed, and if I hold the scapula firmly, and attempt to move the upper arm upon it, there is almost complete immobility—she must move the whole scapula to move the arm. Ankylosis of a scrofulous nature, giving rise to no abscess, has led to the disintegration of the cartilage, to the fibrillation of the cartilage-cells forming the surfaces of the joint. If it were necessary to give here more motion, we might, under chloroform, break these fibres down; but I am afraid to do this in so delicate a subject, lest more disease should be set up, and a worse condition ensue.

This other case is one of ankylosis of a different kind. It is a stiff wrist-joint from alteration of the surrounding structures—spurious ankylosis. We have here had gonorrhœal rheumatism with synovitis, which frequently affects the ankles, wrists, and knees. Some have supposed that it is in consequence of a certain kind of pyæmic absorption from the urethra; some think it of the nature of ordinary rheumatism. I have seen a closely similar result in a rheumatic case without gonorrhœa. It is really rheumatic, and will come on after any lowering disease. In these cases, where it is clearly connected with gonorrhœal discharge, it proves most obstinate and intractable to remedies. In this case it is leading to complete stiffening. The man came to us with the wrist considerably bent as well as stiff, and he has still tenderness and pain on motion; but still I can induce a little motion, and this gives us hope that we shall get a movable joint. The swelling is less than it was, and we have already obtained a straight position by the use of the straight splint. He bears its manipulation better than he could. I stated that the pathological change was thickening about the joint, extending to both flexors and tendons. He cannot bend the fingers beyond a certain point. This is from the same disease in the sheaths of the tendons. When the synovial membrane of this joint becomes diseased, these sheaths are often affected by the same disease, whether scrofulous or gelatinous degeneration, or any other. In April last this man had gonorrhœal rheumatism affecting all the oints, but in a few days all the pain and swelling settled in his wrist. The straight splint was kept on for seven weeks. He went to the Orthopædic Hospital, and some adhesions were broken down; he then came into this hospital. We shall succeed in getting a good amount of motion here, and avoid the true fibrous ankylosis which you have seen in the shoulder of the girl. But it requires great patience in both patient and surgeon. The loss of power is specially noticeable in the extensors: the nerve which goes to them goes also to the joint. It is a case of reflex paralysis; consequently, there is partial loss of the power of the muscles extending the joint. Passive motion must not be pushed too far in these cases—it gives often a great amount of pain. If it produce swelling, it is best to intermit it occasionally; if the patient become feverish from any cause, it is best to discontinue it for a day or two. The recent changes of temperature affect persons in health, and still more so patients in the hospitals. We are going through one of the zones of aggravation in disease. One would think that warm weather would produce alleviation of a patient's symptoms, but this is not the case. The joint-diseases in the hospital are almost uniformly a little worse in consequence of the recent change to warm moist weather.

Now I would call your attention to three more cases of joint-disease. One is that of Selina Lester, aged 12, a case of severe disorganising inflammation of the knee-joint. She has been for a long time, off and on, at the hospital with necrosis of the upper end of the tibia. I have operated twice, first removing the popliteal surface of the bone through an opening in front, which led me close to the joint, and I found that the caries passed into the articulation. She had scars on the thigh also; showing, probably, old disease in the femur above the knee. The knee is quite stiff, fibrously ankylosed from extension of the disease from the tibia. After the first operation, she had an exacerbation of the joint-symptoms—an increase of the amount of fluid in the joint, pain, and swelling, and febrile cachexia; this was probably on account of the contiguity to the joint of the seat of operation. In such a case as this, amputation sometimes becomes necessary; excision will not do, because probably the femur, and certainly the tibia, are diseased along the shaft, and it would be necessary to take away nearly half the bone. This case affords a good example of the way in which joint-disorganisation occurs from disease of the constituent bones. Fortunately rest, and good living and treatment, aiding the powers of nature—the *vis medicatrix naturæ*—have enabled us to avoid the hazard of amputation. The knee-symptoms have entirely subsided, and the joint is ankylosed from fibrous adhesions and in the synovial folds, and thickening and stiffening of the ligaments. I do not think there is, at present, complete union of the opposite surfaces; it might be called an "ankylosis of the ligaments."

In another precisely similar case, that of William Jackson, aged 7, in the female ward, there is less hope. Not only is he very young, but he is more delicate, and always has been more hectic and tubercular in appearance. Although we have made free openings, and removed portions of dead bone from an abscess in the upper end of the tibia, there still remains an effusion of fluid into the joint—I hope it is not pus. The joint is assuming all the characters of active disease; there is great tension in the anterior part, causing extreme pain by pressure on the nerves of the synovial membrane. No doubt the tension on the synovial membrane is far greater from this gradual secretion and deposit than from any force that could be artificially exerted by injection. You can discern the outline of the patella and the tendon which leads downwards from the rectus; you can feel that the fluid moves under it; you can make *ballottement*, the patella you can tap against the femur like a boat bumping on the bottom of a shallow river; the pouch under the crureus is enormously swollen. In cases where the joint becomes diseased from the opening of an abscess of the tibia into it, the swelling comes on faster than when the disease arises in the joint, and it spreads quickly upward. I have sometimes seen the subcrureal pouch not distended at all in such cases. I do not think that you can trace so distinctly the progress of the disease from the femur, however; it is more likely to set up an inflammation suddenly extending all over the joint.

I do not yet see what we shall have occasion to do to this poor little fellow, for he has frequent exacerbations of hectic fever, when he loses flesh and appetite; the tongue and pulse show constitutional irritation, and the temperature rises considerably at night. We may be obliged to remove the limb to save his life; but in children, unless you have very serious cause, you should not lop off a limb, and more delay is proper in them than in adults.

I come now to another serious case, illustrating another phase of joint-disease. Thomas Baldwin, aged 26, coming from the country, has had swelling of the knee for sixteen months, appearing first above, and not below the knee-cap. It produced much pain, and he had to use crutches. The swelling then obscured the knee-cap, some-