the direction of the pubic ramus, outwards, downwards, and backwards, glancing over a portion of the bone of the pelvis—its direction being such that, if continued, it would have come out by the side of the anus behind.

Evidently, in the opinion of one medical witness, there was a relation between the wound and the subjacent bone; for he said that the bone underneath would give a direction to the wound, supposing it to be caused by a dig with a stick. It was evidently a lacerated wound: it is described as appearing to have been produced by a *blunt*-pointed instrument; that its production must have required *much force*, as grazing over the bone, partly separating the head of the muscle; as having, in its whole length, the jagged appearance of torn muscle.

If, then, the different cases of injuries of the vulva which have been mentioned be considered in reference to the light they may throw on the question, How was the fatal wound in this last case inflicted?—it will be seen that they lead to the following conclusions:—

That, as a general rule, wounds of the vulva are attended with severe, and sometimes, as in this case, with fatal hæmorrhage; that such hæmorrhage is explained by the anatomical structure of the parts, and its probability and degree increased by pregnancy.

That the relative position of the plane of the pubic arch allows such injuries of the vulva to be effected indifferently by a force from behind or in front; that the probability of its coming from behind would be increased by the woman being in a stooping position, and by her being large in the family way; and that, therefore, *exceptis excipiendis*, the wound in this case may have been produced by a kick in the rump.

That wounds of the vulva are frequently caused by the division of the soft parts by compression on the bone beneath, particularly its edge; that this circumstance explains the appearance which they assume of being punctured wounds, and will account for such appearance in the case under consideration.

Thus it would appear that there is a high probability in the supposition that this wound was inflicted by a kick or some such violence, accidental or intentional; whilst it is not to be denied that it may have been effected with the stick, as suggested. The direction of the wound downwards, in my opinion, would lessen the probability of its having been effected by the stick. It appears to me that it would most probably have been upwards, and at least directly inwards into the vagina. I do not, however, lay great stress on this supposition; but I think there can be no doubt that when, as surgeons, we account for death by a consideration of the nature of the injuries causing it, we are bound, of two explanations, even supposing them to be equally probable, to take that most favourable to the accused. The prisoner's own account of the affair bore out this more favourable supposition. Before his trial I heard that he expressed his astonishment at the medical evidence; and after his conviction, when on his way to the scene of his punishment, he stated, on being interrogated on the subject, "It is no use for me now to conceal the truth; I know that my lot is fixed. I did not do what it was said I did, but I did what I know was very wrong. I came home, and found her drunk; I got enraged, and I certainly did *kick* her." It will be remembered that his defence had been that the injury was accidental. I may also add, that a gentleman on the side of the prosecution has only lately remarked to me, in reference to this case, "No doubt in that case we were wrong".

I have been induced to bring this subject forward, not merely from the interest fairly attached to cases of such importance, but because I believe it is a point in surgical jurisprudence hitherto not illustrated. A case will, I dare say, be remembered where a little girl was wounded in the vulva, and where the supposition was that it had been effected by an instrument pushed up through a grating. My recollection of the case is loose, and I do not know where to refer to it; but, from what I do remember of it, I

think the explanation I have given of a blow against the bones of the pelvis would equally explain it.

It has been my wish, in criticising the evidence of others, to do so fairly and dispassionately. The opinions which as surgeons we give in courts of justice, particularly where the issue is to be life or death, are fair subjects of criticism: nay, the public good demands that they be subjected to it.

ON OSTEO-MYELITIS AFTER AMPUTATIONS.

By CHARLES KIDD, M.D., M.R.C.S. Eng., Fellow of the Surgical Society of Ireland, etc., London.

THERE is a purely medical or hygienic aspect under which the late surgical disasters in the Crimea may be regarded, that is entirely too much neglected just at present in England; yet the results of the late campaign are full of novelty, and very full of interesting instruction for hospital surgeons and practitioners generally through the country. Indeed, the old familiar reports now made public from the pathological department of the English army by Dr. Lyons, as well as various returns made to the Emperor of the French by the pathologists at Pera and Marseilles, have opened up new and hitherto untrodden paths of research.

A purely medical disease of no small interest, osteomyelitis, or inflammation of a bad character of the medulla of the long bones, has been much dwelt on recently by the French *physicians* with the army in the Crimea, as common both in their hospitals and ours; so much so that disarticulations at the joints, so as not to expose the delicate tissue of the medulla and the internal lining membrane of the medullary cavity, have been very generally substituted for amputations.

We have now the statistical results of the amputations and other cases in the late Crimean war:—108 per thousand died from surgical wounds in the Crimea; 391 per thousand from bad hygienic arrangements, scurvy, and cold; while, at Scutari, 575 deaths in a thousand were from medical diseases with which the "civil element" was unable to cope, such as dysentery, pneumonia, osteomyelitis, etc.; while 175 deaths in a thousand were from fever. The vast preponderance of medical diseases here must strike the most superficial reader.

The total of killed and wounded of our army in the Crimea up to September 1855 was 13,800 men in three nearly equal divisions; viz., from medical diseases in the trenches, assaults, and battles. The proportion of killed to wounded, curiously enough, is the same as at Waterloo—193 to 1,000; so that our surgery has not advanced on the field of battle.

We can compare these statistics in London better than any where else, as we have now a mass of reports from the French army of a most superior and valuable kind.

One cause of danger from amputations has been hitherto overlooked. A large number of the wounded at the battle of the Alma, and even a larger proportion of the wounded at the frightful affair of Inkermann, were observed afterwards to sink from a disease which, though well known to practical surgeons in hospitals of late years, has been yet not often described; viz., inflammation of the medullary canal and medulla (osteomyelitis) of the long bones, due to meteorological influences in a great measure, also to too many amputations, and too much distrust of the unaided powers of Nature herself. This form of disease, observed in all the hospitals at Constantinople from the beginning of October to the end of December, was remarkable for coming on very like pyæmia, and for being, if possible, more dependent on meteorological influence than even that terribly fatal and unwelcome complication of wounds. In a word, the dangers of pyæmia and osteomyelitis, from want of pure air in hospitals, especially in winter, to "burn off", in Liebig's phraseology, the pyogenic elements in the blood, the moment they make their first appearance, has been too much overlooked.

This disease was known amongst the French surgeons especially, by a sort of hernia of the medulla of the long bones, on the face of the stump, in shape of a mushroom. The periosteum, all round where the saw had cut, became bare, and the bone was protruded. Wherever this mushroom appearance of the end of the stump was observed (I have occasionally seen it in London hospitals also), death was almost invariably certain; so much so, indeed, as to cause the surgeons at Pera to be at their wits' ends what to do for its prevention or cure. The disease was dreaded as a sort of plague, especially when the wind blew from a particular quarter, so that it came at length to be a question whether amputations ought to be done at all; while, in many cases, the still safer alternative of disarticulation (heterodox as such an operation may appear) was adopted with advantage, till disarticulations, especially of the knee, in place of amputations, came to be quite a new feature in Crimea surgery.

The more general causes of the high rate of mortality at Pera—the chief causes of the ill results of several operations—are traced by the French to the nervous prostration of the men, the continual mental tension and want of sleep among the soldiers in the trenches, want of their ordinary good food, as well as to the blank in a Frenchman's existence in the Crimea produced by the absence of his accustomed bottle of wine (*vin ordinaire*), so necessary, it is thought, and not perhaps without reason, as supplying the want of fluid in the system caused by frequent hæmorrhages. As a calorific agent in the economy, wine is also useful where many causes otherwise conspire to depress the general nervous system, thus preventing the proper purification of the blood, as described by Liebig. Various animal miasms in the vicinity of the camp, from the crowding of the men, were added to these evils. The dreadful winterishness of the season in the Crimea before the taking of the Malakhoff, want of tents, etc., all conspired to make the hygienic and sanitary condition of the French troops, if possible, worse than that of our own. At Scutari, in our hospitals, one-fourth of the sick were boys under 20, mere "gristle", scorbutic, and subject to all kinds of adynamic or hyposthenic diseases. The Russians were more tolerant of disease and operations.

The hospitals at Pera received the worst cases; and some idea of the crowding may be conceived from the fact that sometimes two hundred men of a morning were sent away half cured, to make room for others newly arrived. Large numbers of the amputated were sent away to France half healed, as the sea air and journey to Marseilles was thought better than exposure at Constantinople to the unavoidable miasms of the south wind and the evils of osteo-myelitis, with the other evils so graphically described within the last few weeks to the French Emperor in the government returns. Scurvy, hospital gangrene, ordinary sphacelus, secondary hæmorrhages after operations, osteo-myelitis, diarrhoea, dysentery, nay, cholera, typhus, and a state of adynamia allied to typhus, have all, each in its turn, been met with by the French physicians as obstacles to the healing process in stumps. Some other cases, it must be confessed, were lost by bad surgery, such as not tying both ends of a wounded artery, but allowing secondary hæmorrhage from the distal end to take place, as now recognised by such first-rate surgeons as Mr. Erichsen, Mr. Cock, Mr. John Adams, Mr. Paget, Mr. Simon, etc.

In reflecting on the terrible mortality from secondary amputations, especially those of the thigh and knee, the French surgeons now again believe it would be better not to operate at all, and, in fact, that the words "secondary amputation" ought to be banished from military surgery. I said this in 1848, as the experience of MM. Roux, Velpeau, Baudens, etc., at that time; but I have often been put down by statistics. There are few things that can be so abused as statistics. I have never forgotten an observation I heard in Brussels, where I met M. Quetelet, the Dr. Farr of those countries. Statistics merely show the direction in which the truth lies, as a sign-post points out a specific road or turnpike-gate. We should not strive to

corroborate a preconceived crotchet or theory by statistics, for, if we do, we are most likely to succeed. The dictum of the first Napoleon is, of course, very well known—that he would prove anything in the world by statistics. Our statistics, to be of use, must be as extensive as possible. If the sign-post turns to four roads, we must take care how, to please our preconceived crotchet, we turn the sign-post itself about our own way. Statistics of half a dozen cases of amputation in London hospitals may show that primary amputations of the shoulder-joint or above the knee, from a crush in machinery or under an omnibus, are more dangerous than secondary amputations of the foot or fingers for diseased bone: and we may build up a law on that, and turn round the sign-post, as we have very recently been doing in statistics from the Baltic; but we are nevertheless wrong. As a matter of wide and enlarged comparison, we may refer to Fenwick's 8423 amputations, about half in civil hospitals, and about half in military practice; the death rate in each being about 1 in 3.15. This will furnish a good starting point, though I believe it is a little—a very little—too high.

Next, as to primary operations, compared to this standard. At Pera, by the French, it was found that primary amputations were far more successful than secondary. Many of the latter cases occurred amongst the Russian prisoners, tall healthy men, but who refused to be operated on except by their own surgeon, Pirogoff. They nearly all died when operated on as secondary operations; in fact, they only allowed amputation as a *dernier ressort* before they died. Of 527 wounded, taking all kinds of cases in the French ambulances and at Pera, 216 died. It is curious, and not without instruction, to compare these figures with 584 similarly treated at the passage of the Pyrenees, in Mr. Guthrie's book, of which 300 died, or more than half; or a death rate, as Fenwick would say, of 5.14 deaths in the latter, 4.10 in the former; and both above the proper average.

Let us compare this serious mortality with 310 primary amputations, in which there were only 45 deaths. The staff-surgeons, Mr. Guthrie then said, "kept their primary amputations with them in bivouac, and their success is remarkable; that of the fourth division has no parallel"—for the simple reason, that they were all primary operations, as now well understood in the French and Sardinian armies.

The French go on to state that operations in the Crimea on the upper extremities, as we should have, *a priori*, expected, were far more successful and healed sooner than operations on the thigh and lower extremities. They agree with English surgeons, that no patient ought to die, in fact, of amputations of the forearm or arm, except, of course, from pyæmia, osteo-myelitis of the humerus, or some such complication; and that, if possible, amputations are to be avoided. Amputations of the forearm were more rare among the French than amputations of the arm on this account, as the last was only done from pressing necessity. Amputations of the thigh and leg were equal in numbers, so this is convenient for statistical results, as equals added to equals must simplify the rule thus deduced, as the final result must be equal.

But now we come on a curious fact, due to the prevalence of this new disease—osteomyelitis. Disarticulations of joints, necessitated by gunshot wounds, have been less formidable as to death rate than the old method of amputations. Of 183 disarticulations, ranging through all the joints from the hip-joint to the wrist, there were only 72 deaths. (In 3 cases, the hip-joint was disarticulated!) Resections of joints also have offered the most unexpected good results, as, of 26 cases at Pera (including 7 of the ankle, 4 of the head of the humerus, and 1 of the clavicle), there were only 9 deaths, and these from medical and hygienic causes, irrespective of the operation itself. In another department of the French army, there were 14 resections of the head of the humerus alone, almost every one successful; and of 40 cases of resection of the elbow, given by Stromeyer, 32 recovered with useful limbs; in 17,

there was more or less flexibility of the elbow; in 13, ankylosis. Several of these men were useful as carpenters, as they could use their shoulders in a hinge-joint fashion, such as planing wood, cutting with a hatchet or chisel, etc., which they manifestly could not do if they had lost the arm by previous surgery of last century. Resection of the elbow was every where amongst the French less dangerous than amputation of the humerus, from the prevalence of this disease, osteo-myelitis.

It is very interesting to find Dr. Menzies, and in London such an eminent surgeon as Mr. Skey, in a clinical address this month on amputations, now adopting the opinions of the surgeons of 1848, that I then published. Such is the congruousness of truth and fact, in spite of the anomalies of statistics. Dr. Menzies, like many surgeons after great battles, gives an opinion that one will find in all our medical libraries amongst old books, that more in the Crimea might have been left to conservative surgery and the *vis medicatrix*, or, as M. Velpeau expressed it in 1848, "Plus je vieillis dans la pratique moins je suis partisan de l'amputation."

ON THE USE OF CUBEBS IN THE TREATMENT OF GONORRHOEA.

By H. BURFORD NORMAN, Esq., F.R.C.S., Consulting Surgeon to the St. Pancras Provident Dispensary, and to the St. Marylebone Charity Schools.

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[Concluded from page 500.]

So varied in degree of severity are attacks of gonorrhoea in different persons, that the question was at one time much debated among the authorities on venereal diseases, whether they were not occasioned by specifically different poisons. The true cause of these differences was very clearly assigned to the habit of body by Whately, Howard, Robertson, and others, who wrote on the subject with much experience in the beginning of the present century, and has been very clearly observable to me in my own practice—so clearly, that I know nothing analogous equal to it, but that which is often to be observed in cases of ophthalmia, in which the pain, redness, and sensibility of the affected organ all bear a clear relation to the weakness and irritability of the whole frame, and especially, perhaps, to that of the organs of digestion.

Bearing in mind these differences of habit which prevail in different individuals, we must not be surprised to find that the cubebs not only fails, in some instances, to produce its best effects, but sometimes also causes inconveniences. What these are, and how to obviate them, I shall now endeavour to point out.

They are, nausea, headache, vertigo, hot flushings of the cheeks and hands, heartburn, acid eructations, diarrhoea, occasionally constipation, and, it is said, swelled testicle. The latter, I do not think, is justly attributable to the remedy; for certain it is, that from the time we possess any accounts of the gonorrhoea it has been one of the accidents most commonly occurring in the course of the complaint. It would little profit us now to go over the various modes of accounting for its occurrence, according to the notion regarding the disease and the proper method of treating it, prevalent at different periods. But it cannot fail to instruct our judgments in reference to our present remedies, to bear in memory the fact that this complication has been at all times common, and that every remedy in turn proposed for the cure of gonorrhoea has had to bear the blame of its production. Of one thing I feel very strongly convinced respecting it, viz., that if we can succeed in checking the discharge from the urethra quickly, without the application of any active and violent topical remedy to the inflamed canal itself, we place the patient in the most favourable condition to escape the accident. There are many reasons why this should be: 1st. In the beginning of the attack the inflammation is confined to the forepart

of the urethra. 2nd. The constitution is then little affected. 3rd. For a few days we often can control the whole habits of the patient, and adopt all those precautions which may check the tendency to a further inflammatory attack on the subsidence of the first; amongst which, rest in the recumbent position is the most important; frequent steaming of the perineum the second; saline and other diaphoretic drinks, with Dover's powder, a third. Violent purging I think has no good effect. It irritates and teases the patient, and renders the urine acrid; but a daily evacuation, procured by such a medicine as the compound jalap powder, the tartrate of potass, or seidlitz powder, taken fasting in the morning, is, in almost every case, advantageous.

The other evils attributed to the use of cubebs are partly due to the patient, partly to the remedy, and partly to a neglect of due precaution on the part of the prescriber. They are all connected so far with the patient that they arise from his stomach not readily digesting the medicine; and similar effects would be produced by any similar irritating and indigestible matter. Many persons cannot take spiced or seasoned food without feeling more or less of similar consequences; and of course when there is added to the stimulating influence of the essential oil contained in the powders of the cubebs, the presence of a large quantity of hard woody fibre, its effects will sometimes be very disagreeable. Can anything be done to mitigate or to prevent them? I think, much. In the first place, we should give the powder as fine as we can possibly get it; secondly, be most particular that it is fresh, so that we derive the fullest effects from the smallest effective dose; thirdly, we may combine with it some sedative, saline, or other medicine, as the carbonate or tartrate of soda, the carbonate, tartrate, or nitrate of potass and hydrocyanic acid. Frequent draughts of cold water, or the sucking of lumps of ice, tend to lessen much the irritability of such weak stomachs, and to enable them to bear with tolerable patience this medicine, and other things which would otherwise be intolerable. In all cases, a free state of the bowels, maintained by daily giving a quick but not irritating purgative on the patient's first waking in the morning, tends much to counteract the irritating effects of the medicine, and to lessen its purgative quality, which, when the drug is not adulterated with other purgative matter, seems rather to depend upon its mechanically irritating the intestines, like bran, fruit seeds, and other similar articles, than upon any other cause. Where the powder produces the opposite state of constipation, which is not frequent, it seems again to act mechanically in patients of a different stomach from the preceding class. In these it fails to irritate at all, and must be dislodged by aperients. I think there are very few if any cases in which the offence of the cubebs is more than I have thus endeavoured to explain, and in which it may not be made tolerable, and at the same time the most efficient remedy which we possess. Until lately but little advantage has been derived from any preparation of this drug. The alcoholic tincture and the essential oil have been long in use; but neither of them with much benefit—for this reason, that each wants the chief active principle of the drug, viz., an oleo-resin closely resembling in its properties the balsam of copaiba. The essential oil has, I believe, some influence on the urethral discharges; but the resinous oil is the remedy *par excellence*. In the preparation which I now introduce to you, both of these are combined; and it is obtained by acting on cubebs separately by ether and alcohol, evaporating each tincture at a low temperature, and mixing their residue. I am inclined to expect from this preparation much advantage and freedom from the objection attaching to the powder. Ten drops of it equal at least a drachm of good cubebs powder. At present it is chiefly used in the form of capsules. From experience, I can say but little about it, as I have only lately been acquainted with this preparation, and the powder has afforded me very satisfactory results. All that any medicine can do in the treatment of gonorrhoea is so often undone by the inability or unwillingness of the patient to con-