strengthening of the elastic coat by this hypertrophic thickening, the elongation and tortuosity of the arterioles would be much greater than they are. The tortuosity of the hypertrophied renal arterioles is well shown in my first illustration of this subject (*Med.-Chir. Trans.*, vol. xxxiii, p. 114), a copy of which is here given. (Figs. 1 and 2.)

Fig. 1.—Portion of Renal Artery in the normal state, showing the relative thickness of its coats. c. Circular fibres. l. Longitudinal fibres. Magnified 200 diameters.

In a leading article in the JOURNAL of April 6th, reference is made to Dr. Ewald's paper in Virchow's *Archiv* on the Changes in the Arterioles in Bright's Disease. Dr. Ewald appears to have looked for hypertrophy of the arterioles in the pia mater alone, and therefore his

Fig. 2.—Portion of Artery from a Granular Kidney, showing great hypertrophy of its coats. c. Circular fibres. l. Longitudinal fibres. The canal of the vessel is filled with injection. Magnified 200 diameters.

observations are incomplete, and insufficient to support the objections which he raises to my explanation of the relationship between the arterial and the cardiac hypertrophy. In the cases in which he found hypertrophy of the heart without hypertrophy of the arterioles of the pia mater, it is probable that the arterioles in other tissues, more especially in the skin, may have been sufficiently hypertrophied to explain the cardiac hypertrophy; and, on the other hand, it is obvious that hypertrophy of the arterioles of the pia mater without arterial hypertrophy in other tissues would not cause cardiac hypertrophy. Therefore arterial hypertrophy limited to the pia mater may be unassociated with hypertrophy of the left ventricle. In reply to Ewald's argument, that "the absence of cardiac hypertrophy in amyloid and atheromatous thickening of the arterioles is against the vascular changes as causes of the heart-affection", I beg to say, as I have often said before, that, while this shows that mere degeneration of the walls of the arterioles, with consequent loss of contractile power, is not the cause of the hypertrophy of the heart, it is entirely in accord with the view that arterial contraction and resistance, with resulting arterial hypertrophy, are the main cause of the hypertrophy of the left ventricle associated with chronic renal disease. Ewald's theory, that the resistance which causes the arterial tension and the cardiac hypertrophy originates in the capillaries, and not in the contracting muscular arterioles, appears to me to be inconsistent with the facts and with the doctrines of vasomotor physiology. It is suggested that the polyuria of granular kidney is the result of increased pressure on the Malpighian capillaries consequent on capillary obstruction in front. To this I object, that increased pressure on the Malpighian capillaries would cause, not a copious secretion of urine, but an abundant transudation of albumen; whereas we find that, in cases of granular kidney with the evidence of high arterial resistance afforded by the great hypertrophy of the arterioles, albumen in the urine is rarely copious, usually scanty, and sometimes entirely absent. On the other hand, we have the clinical fact that when, as a result of valvular disease of the heart, the return of venous blood from the kidney is impeded, the increased pressure on the Malpighian capillaries is associated with a scanty secretion of highly concentrated urine, which, too, is often copiously albuminous. It appears, then, that the effect upon the urinary secretion of an impediment in front of the Malpighian capillaries is the exact opposite of that which the theory in question assumes it to be.

DR. MENZEL of Trieste, a surgeon who had already gained for himself a considerable reputation, has recently died at the early age of 32. While attending the Congress of German Surgeons in Berlin last month, he was attacked with hæmoptysis, and, after a brief illness, died of acute phthisis in the Augusta Hospital. He was one of the most eminent disciples of Billroth's school.

CLINICAL LECTURE

ON

ANTISEPTIC OSTEOTOMY FOR ANKYLOSIS AND DEFORMITY.

By RICHARD BARWELL, F.R.C.S.,
Surgeon to Charing Cross Hospital.

[Concluded from page 707 of last number.]

GENTLEMEN,—A few words remain to be spoken concerning a different deformity, which I have kept for separate consideration, because of late some curative operations, with which I will contrast my own, have been introduced. The ordinary knock-knee, or *genu valgum*—a very common deformity—is always accompanied by obliquity of the femoral condyles, in such manner that the inner lies on a plane lower than the outer. I say accompanied by, and not, as is usually said, produced by, because I conclude from the great lateral looseness of the knee-joint that a certain yielding outwards of the tibia is likely to be the *primum mobile* of the deformity, and the faulty growth at the lower end of the femur, a secondary condition, superinduced by changes in the amount of pressure. I conceive, then, the malady not as a mere lengthening of the inner condyle, but as an obliquity of the whole lower epiphysis, caused by increased thickness of the entire epiphysal mass on the inner, or decreased thickness on the outer side. However this may be, it is certain that when the deformity is fully developed, the exaggerated projection downward of the internal condyle—in other words, the obliquity of the joint-surface—is the obstacle to rectification of the limb. The problem of surgery is to discover the best and safest method of overcoming or evading this obstacle.

Examination of the results obtained or not obtained by instrumental treatment, criticism of some earlier operations, such as cutting out a piece of the tibia, even sawing off the lower end of the femur, lie beside my purpose: I only wish to direct attention to the operations of Dr. Ogston (Aberdeen) and of Dr. Macewen (Glasgow). Dr. Ogston's method consists in passing a knife, then a saw, obliquely from above the inner condyle into the knee-joint, over the anterior surface of the femur, to midway between the two condyles: the inner one is then very nearly sawn off from before backward; the thin remaining portion of bone is broken by forcing the tibia into its normal position; and the condyle, thus pushed up on the femur, is allowed to attach itself in the new position (*Edinburgh Medical Journal*, 1877, p. 782; *Langenbeck's Archiv*, vol. xxi, p. 537). Dr. Macewen's method is thus described:—"An incision was made over the inner condyle of the right femur, the centre of which corresponded with the upper part of the condyle, the object being to go as near the knee-joint as possible without opening it. A V-shaped portion of bone was struck out by the chisel from the inner side of the condyloid extremity of the femur; the remainder of the bone was broken, and the limb was brought round straight."* (*Lancet*, March 30th, 1878.)

Both these operations appear to me more severe than the exigencies demand. Of Dr. Macewen's, it is to be observed that two of the three cases suppurated, and under such circumstances there would seem to be some danger of extension of the inflammation to the knee-joint. From the description given in that gentleman's paper, and quoted above, it is difficult to make out in what direction the triangle of bone is struck out; but I suppose it to be horizontal. If I be correct in this supposition, the section would, I think, of necessity interfere with the epiphysal function, thereby in all probability affecting the subsequent growth of the limb.†

Dr. Ogston's operation is also rather severe—even, it would seem,

* In his paper, Dr. Macewen claims to be the first in England who performed antiseptic osteotomy. I am not concerned here to dispute the assertion, which, although his case has only just been published, is doubtless correct. I would, however, point out that, in his osteotomy for ankylosis of the knee, he cut out a wedge of bone from the front of the femur. This procedure is not only different to mine, but is one that I deprecate as unnecessarily severe. Nature supplies a wedge of new bone to fill up an angular gap left between a deflected straight section with much greater precision than that with which a surgeon can cut out a piece to avoid a gap: the limb will not be shortened, and the bone will heal much more quickly and surely if a mere straight division be made.

† While the above was in press, I have received a note from Dr. Macewen, in which he informs me that the incision in the soft parts is vertical; the wedge-shaped piece of bone is oblique, sometimes horizontal.

hazardous.* To pass a saw into the knee-joint, and then to partially fill that cavity with bone detritus, and the oozing from cancelli, is a procedure whose innocence could only be proved by a goodly array of thoroughly ascertained cases. It must also leave behind a femoral joint-surface greatly altered, and provided with a peculiar shelf and sharp prominence, with which the tibia cannot possibly fit; therefore one would like some after-history concerning the reliability and usefulness of the articulation. However, it is not my wish to criticise either of these very ingenious procedures, further than to show cause for the suggestion of a different operation, which, although performed in two stages, is less severe, and gives very excellent results. The following case sets forth the method I have adopted.

Kate L., aged 14, was admitted under my care into the Charing Cross Hospital on February 5th, 1878, in the hopes that a severe *genu valgum* of the left limb might be rectified. She is a healthy, but

strongly constituted, child. The plate gives a fair idea of the condition of limb. This child was for certain reasons not photographed. Her limb was laid on paper, and its outline carefully traced; also an iron wire was bent and moulded accurately to its outer side. From these tracings and moulds the plate has been drawn. I also procured a paper tracing from the healthy limb of a girl of equal age.

February 14th. I divided with a chisel the femur a little above the epiphysal junction. The tracing of a healthy limb was so laid on the table that its outline corresponded with that of my patient's thigh, against which the wire-mould was held. The femur was bent inward at the section, until the foot lay midway between the place where it was (marked by the iron wire) and the place where it ought to have been (determined by the tracing of a sound limb). In this position the parts were fixed by a plaster of Paris bandage.

February 21st. The small wound had healed. There had been neither pain nor rise of temperature.

March 7th. I divided the fibula very obliquely about an inch below its head, and so deflected the lower part of the limb that the foot occupied the same place as that of a healthy limb, and applied the plaster-of-Paris bandage.

March 15th. There has been neither fever nor pain, and the wounds healed within the week.

Results.—The limb is now of very good form, and is strong; the knee-joint, not having been interfered with, is perfect (fig. 6). I was anxious, when I undertook the above operation, so to arrange that the limb should not merely look straight while the knee was extended, but that during flexion the tibia should move in its normal plane—that is to say, that in every posture of the limb, whether the median, turned out or in, flexion of the knee should always bring the heel in a circular line towards the tuber ischii: any deflexion outward or inward from this course would be a manifest result of error. This consideration caused me to take such pains, by the aid of tracings and mouldings, to divide the rectification of the deformity equally between the parts above and below the knee-joint. The result is perfect. The limb is shapely, not only while extended, but also in flexion; and in every position the heel, when the knee is quite bent, lies close to the tuberosity of the ischium.

There are now under my care two or three cases of exaggerated deformity—at hip, at knee, in the shafts of bone, which I show you as demanding treatment by this method; but I shall not for the present say more on this subject, having given ample grounds to justify the operation, and more especially having shown that the severer measures—the taking out wedges of bone—are quite unnecessary.

* It is only right to say, that in a private letter Dr. Ogston tells me that he believes the operation has been performed about thirty times, and he is not aware of any ill effects having followed.

Fig. 5.

Fig. 6.

CLINICAL COMMENTS

DYSIDROSIS AND ITS MORBID ANATOMY.

Delivered at University College Hospital.

BY TILBURY FOX, M.D., F.R.C.P.,
Physician to the Department for Skin-Diseases.

GENTLEMEN,—For some years I have taught that there exists a special inflammatory disease of the skin, commencing in the sweat-apparatus, and characterised in its early stage anatomically by the development of little vesicles imbedded in the skin, which occupy the site, and are produced by the distension, of the sweat-ducts by fluid sweat rapidly becoming mixed with and altered by inflammatory fluid. This disease is usually confounded with acute eczema.

A typical case was admitted into the Hospital a fortnight ago, under my care, and exhibited the disease in both its earlier and later stages. I pointed out to you amongst other things the naked eye characters of the disease at its commencement; how the ridges of papillæ on the palms appeared to be redder and more distinct than usual, from the fact that they were in a state of tumefaction; how the sweat-follicles, or rather their orifices, appeared to be peculiarly distinct and recognisable; and how these follicles were apparently distended to form vesicles, which looked like little sago-grains imbedded in the skin. At least, these early vesicles were seen to be deeply seated and not produced by any elevation of the cuticle, and we thought we could make them out to occupy the site of the sweat-ducts, and trace transitional stages between increased distinctness of the follicular orifice and the formed vesicles. I explained also that the sweat-duct opening could be clearly made out in the centre of the imbedded vesicle.

I promised to try to obtain the patient's consent to the removal of a piece of skin for careful examination; and you will be glad to hear that I have succeeded. Some of you saw me mark between two ink lines a portion of skin containing a few ridges of papillæ, where I stated that characteristic vesicles existed in an early stage, *i.e.*, about the fourth day of the disease. The portion of skin was removed, and Dr. Crocker kindly took charge of it for the purpose of preparing some microscopical sections, which he has accordingly done with much success. Dr. Crocker and I have carefully examined these preparations, and I will now acquaint you briefly with the main results obtained. You shall examine, however, some of the preparations for yourselves.

It has been stated lately by several observers that dysidrosis is not a disease of the sweat-apparatus, and Dr. Robinson of New York especially, in a recent article in the *New York Journal of Dermatology*, professes to have proved that the vesicles are formed by distension of the rete mucosum by inflammatory fluid effused from the vessels of the papillæ; and he figures the vesicles seated over the papillæ.

Whether Dr. Robinson's case was a true instance of dysidrosis or not I cannot say, but our present case undoubtedly is; and what we find in our specimens is conclusive evidence that the sweat-ducts are very large and in some cases distended at their upper part, and that the vesicles are formed in connection with the sweat-ducts. Out of seventy or eighty specimens, we can only detect two instances of vesicles having any definite relation to the papillæ. The majority are distinctly formed *between* the papillary projections of the rete, their central axis being opposite to or a continuation of the depression in the rete answering to the usual spot where the sweat-coil enters the rete from above. In some cases, the duct, as it enters the rete, seems larger, as though commencing to dilate; but we can trace the sweat-ducts entering the little vesiculations or globular dilatations, sometimes at the central point of their summits, at other times more to the side, but still distinctly entering. We can see the sweat-ducts leaving the base of the vesiculations, in some cases at the central point. In some specimens, the duct projects slightly into the vesicles, and then its continuation is seen running from the direction of the bottom of the vesicle and continuing its course through the corium. There is one remarkable specimen of a twin vesicle with two contiguous sweat-ducts clearly entering the vesicles. In none is the horny layer of the cuticle raised into vesiculations at the early stage of the disease. We have searched in vain for the early phenomena of *eczematous* inflammation. In our sections, the sweat-ducts are everywhere unusually well seen: Dr. Robinson figures none. As to the changes that go on in the deeper portions of the sweat-gland, further investigation is needed; but I have