REPORT OF THE MEDICAL HISTORY OF THE ATTACK OF DIPHTHERIA IN THE GRAND DUCAL FAMILY AT HESSE-DARMSTADT.

BY DR. EIGENBRODT,

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IN accordance with the wish of the medical profession in England to obtain some more exact information on the terrible epidemic of diphtheria in the Grand Ducal family, I send the following details. They will be limited, however, to-day to the previous history of this epidemic, as I am at present overburdened with professional duties.

In the report of the 25th November, published by my colleagues, Professor Oertel, Dr. Jaeger, and by me in the *Berliner Klinische Wochenschrift*, we have attributed the intensity and extension of this family epidemic—

1. To the intensity of the infectious matter, carried from outside; because the diphtheritic membranes in the case of the first patient, Princess Victoria, looked, from their very appearance, discoloured (ecchymosed);

2. To the direct transference of the infectious matter by kisses;

3. To the condition of the mucous membrane of the pharynx and of the tonsils of the infected persons, all of them having suffered frequently from acute and chronic affections of these parts.

I now add some more detailed statements with regard to the last point mentioned. They embrace the time from the winter of 1874-75 up to the present, this being the time since which I have been appointed Physician-in-Ordinary to the Grand Ducal family.

Princess Victoria was treated by me in the winter of 1875-76 on account of chronic follicular tonsillitis, and in October 1876 on account of an acute inflammation of the same kind, accompanied by fever, which lasted for two days. In 1877 and 1878, no such affection has been observed. The tonsils, when examined last, were normal. When the Princess fell ill on the 6th of November, I had not seen her for a fortnight.

Princess Alice, who fell ill five-and-a-half days later, suffered in the autumn of 1877 from a slight subacute follicular pharyngitis. Immediately before she was attacked, the mucous membrane of the pharynx was quite normal, except that there was a very slight catarrh, accompanied by coryza, which had set in a few days previously.

The youngest, Princess Mary, aged four, had only a few times suffered from a slight catarrhal affection of the pharyngeal mucous membrane, when she had been attacked simultaneously by acute coryza. Such an affection had existed for a few days, just at the time when she was attacked with diphtheria.

Princess Irene suffered from coryza and slight pharyngeal catarrh during February and March 1876.

Prince Ernest has suffered more frequently than his brothers and sisters from pharyngeal affections, which were at the same time most obstinate. When he came under my care, there was a chronic follicular tonsillitis. The tonsils were hypertrophied. This state of things became considerably better under the influence of appropriate local treatment and of a suitable diet. The inclination to subacute inflammations of the tonsils, however, persisted. Immediately before the Prince fell ill with diphtheria, the state of the tonsils had been considerably better for several months, and the hypertrophy was but very unimportant. The surfaces of the tonsils looked normal, except that there were a number of distinctly visible scars.

His Royal Highness the Grand Duke has suffered for many years past, and very frequently, from chronic catarrh of the pharynx; the mucous membrane of the uvula especially is frequently very much relaxed, and not rarely oedematous.

These statements, which are taken from my note-book, show that the third of the general assertions in our report of the 25th of November (see above) is to be referred especially to four of the six patients who were then under treatment.

Princess Ella, who is the only member of the Grand Ducal family that has not been attacked by diphtheria, suffered in the summer of 1877, while staying in Houlgate, a watering-place on the French coast, from swelling of the lymphatics on the left side of the neck. When she returned to Darmstadt in the beginning of September, two hard glands could still be felt in the subcutaneous tissue on the anterior border of the sterno-cleido-mastoid muscle. Their diameter was about one centimètre. Some months later, they had completely disappeared. At the time of the affection, there has been a slight catarrh of the mucous membrane of the pharynx; this has yielded, however, completely to the application of some slightly astringent remedies, and the mucous membrane has remained quite normal up to the present.

Her Royal Highness the Grand Duchess Alice had not suffered for many years from pharyngeal affections. A slight hypertrophy of the left tonsil was evidently the residuum of chronic affections, which most likely had been present during her childhood. Full thirty days after the beginning of the illness of Princess Victoria, twenty-two days after the beginning of the last case of the disease in the family, the development of the diphtheritic process began on the right tonsil.

A CASE OF CONTRACTED KNEE FROM THE BITE OF A PANTHER.

BY JOHN ERIC ERICHSEN, F.R.S., F.R.C.S.,

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FOLLOWED BY THE DESCRIPTION OF A NEW SURGICAL APPLI-
ANCE FOR EXTENSION OF THE LEG.

BY R. HEATHER BIGG.

THE following case is not without interest, both on account of the peculiarity of the accident in which it had its origin, as well as of what I believe is a novel mechanical appliance devised for its treatment.

Major S., while out shooting in India, struck with an explosive bullet a panther which had turned to bay. The animal, although fatally wounded, was not instantly killed by the shot, but, springing on his assailant, threw him down, and, seizing him by the right leg, gnawed it from the calf up to the middle of the thigh, dying with the jaws so firmly fixed in the upper third of the limb, just below the trochanter, that their separation had to be forcibly effected with a crowbar. The unfortunate sufferer was obliged to travel in an open cart thirty miles from the scene of the accident before he could obtain surgical assistance. The wounds were then properly dressed and treated by irrigation. They slowly healed; abscesses, however, formed; and, owing to the extensive destruction of skin, there was much ulceration in the calf and outer side of the ham.

Major S. returned to England in November, and placed himself under my care. On examining the right lower extremity, I found the knee was flexed to nearly a right angle, standing at seventy-five degrees from the vertical; and that it could be slightly bent; but that, owing to a dense mass of cicatricial tissue investing the biceps tendon and muscle and extending some way into the popliteal space, it could not be extended in any degree whatever. I found that the joint was sound, and had not been wounded; but there were deep cicatrices in various parts of the leg, and on the outer and anterior part of the thigh in its lower two-thirds, where the teeth of the animal had penetrated.

The cicatrix behind the knee was so tense, large, and thick, matting together the muscular, tendinous, and aponeurotic structures so intimately, that I feared, if an attempt were made to extend it by any apparatus ordinarily in use, it would be torn across. I accordingly requested Mr. Bigg to devise some means of combining continuous traction on the cicatrix with extension of the limb. The mechanical appliance which he devised, a description of which is annexed, is so simple and ingenious, and has proved so thoroughly effective, that I have thought it might be well to bring it and its results in this case before the profession.

DESCRIPTION OF THE INSTRUMENT.

The instrument, of which the adjoined diagram is a representation, was designed at Mr. Erichsen's desire, with the special view of overcoming the contraction of Major S.'s limb. It consisted of a pair of troughs to grasp the thigh and calf anteriorly and posteriorly, and a moulded kneecap to grip the knee anteriorly. These elements of hold were connected laterally by rigid rods, identical in length and direction with the osseous structures of the leg and thigh, and terminating below in an attachment to a boot; while joints existed at the knee, whose axes corresponded with the axis of the motion of the knee-joint, thus permitting the framework so schemed to flex around them and be applied to the leg in its abnormally fixed position. When so applied, it was secured in the ordinary manner.

The extensor agents employed to rectify the limb were twofold and elastic in their character. The first was the traction of India-rubber cords, exerted in consequence of their attachment to a lever in front of the knee on the one hand, and to an extreme point at the top of the thigh on the other. The second was the force of a spiral spring, under circumstances separately shown in the diagram, which were as follows. A rod, hinged to the thigh-trough above and passing freely through a pivoted box attached to the calf-trough below, was so curved as to move, on flexion of the instrument, in a convenient and unobtrusive position, along the side of the leg. This rod was graduated so that the exact number of degrees between the flexed and extended position of

the limb could be easily read, and an unanswerable record of the progress of the case kept. Round the rod, moreover, was placed the spiral steel spring of the necessary strength; and it is the efficiency of this arrangement which is remarkable; the force so evoked, although elastic, lacking the extreme resiliency which sometimes is a drawback

in the use of India-rubber tension. A check-strap at the back of the apparatus controlled the extensor agents, and allowed the instrument to be fixed at any angle suitable for its appliance.

The results attendant on the trial of the mechanism were speedily evident. On November 15th, it was adapted, the graduometer marking 75 deg.; two days later, the angle had diminished to 62 deg.; on the day following, to 54 deg.; and by the 23rd, to 35 deg. A week afterwards, 26 deg. only remained from the vertical, increased power having been added to make up the deficiency incurred by the altered position of the limb and consequent mechanical disadvantage of the power at work. The toe first, and ultimately the entire sole of the foot, were brought to the ground; and at the present time the patient is commencing to walk on the debilitated limb.

CASE IN WHICH A TESTICLE CONGENITALLY DISPLACED INTO THE PERINÆUM WAS SUCCESSFULLY TRANSFERRED TO THE SCROTUM.

By THOMAS ANNANDALE, F.R.S.E.,
Professor of Clinical Surgery in the University of Edinburgh.

ON the 15th of June, 1877, Dr. Irvine of Pitlochry recommended to my care a male child, aged 3, who had been brought to him suffering from pain in the region of the perinæum, which was much aggravated when the little patient was allowed to walk or run. It was noticed that some abnormality existed in connection with the right testicle shortly after birth, but it was only when the child began to walk that the pain directed special attention to the part. Dr. Irvine, finding that the cause of the pain was a displacement of the right testicle, asked me to admit the child into my wards, with the hope that something might be done to relieve the symptoms.

An examination of the patient showed the condition, which is well

illustrated in the woodcut, taken from a careful photograph. The right side of the scrotum was empty, but its skin and other tissues were well-developed. On searching for the cord, it was felt to come out through

the external abdominal ring in the usual way, but, instead of passing down into the scrotum, it could be traced to the perinæum, where the right testicle lay (A). This displaced testicle was felt to be well-developed, was of the usual size, and was lying under the skin and cellular tissue at a point a little to the right side of the middle line of the perinæum. It was situated at a little lower level than if it had occupied its usual place in the scrotum. When pressure was made over the testicle, it caused much pain. The left testicle was normal in situation and development.

On the 5th of July, I performed the following operation, with a view of transferring the displaced testicle to its proper position in the scrotum. An incision, commencing over the external abdominal ring and extending half way down the scrotum, was made on the right side, so as to expose the cord, which was then seized, and by means of it the testicle was drawn out from its abnormal position. This was not done without the division of some adhesions, and there was one fibrous band attached to the bottom of the testicle above and to the tuberosity of the ischium below, which appeared to correspond to one process of the gubernaculum testis, and which required to be cut across before the testicle would leave the perinæum. The scrotum was now opened up more freely, and the drawn-out testicle was placed in it and securely fixed there by means of a catgut stitch passed through the bottom of the scrotum and lower part of the testicle. The opening into the perinæum along which the cord and testicle had passed was subcutaneously stitched with catgut, and a small counter-opening made at the most dependent point of the perineal cavity which had contained the testicle, so as to allow any fluid to drain away and insure the complete closure of the cavity and prevent the testicle from passing again into it. The wound in the scrotum and groin having been stitched, antiseptic dressing was applied. The whole of the operation was performed antiseptically.

The patient's progress after the operation was satisfactory in every way, and the wounds were healed on the 31st of July. A few days afterwards, he returned home with his testicle securely resting in the scrotum in a perfectly natural manner.

In November of the same year, Dr. Robert Irvine was kind enough to write me that he had recently examined the boy, and had found both testicles in the scrotum, and occupying much the same position on their respective sides; the only difference between the two being that the right one felt a little smaller and harder, was more deeply situated, and somewhat more fixed than the left one.

REMARKS.—I record the case, first because it is an illustrative example of a rare congenital affection of the testicle; and, secondly, because, as far as I can ascertain, it is the first instance in which a testicle so displaced has been successfully transferred to and permanently retained in the scrotum.

Mr. Curling, in his very valuable work *On Diseases of the Testis*, relates a case very similar to the one just reported, in which he endeavoured to replace and retain the testicle in the scrotum, but he did not succeed in doing so, owing, he thinks, to "the cremaster retracting the organ after the separation of the adhesions which retained it, as the cord was quite long enough to admit of its removal to the intended site". Mr. Curling further remarks: "In another operation, I should endeavour to secure the testicle to the bottom of the scrotum with a suture." The employment of the subcutaneous catgut suture so as to close completely the perineal cavity, in addition to stitching the testicle to the bottom of the scrotum, as suggested by Mr. Curling, insured, I consider, the success of my operation; and I would, therefore, advocate this proceeding in every similar case.