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.

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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