not merely to prevent the possibility of convulsions, but to avoid and cure a constitutional state which gives origin and persistency to the escape of albumen.

THREE SUCCESSFUL CASES OF SPONGE-GRAFTING; WITH REMARKS.*

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CASE I.—In the January of 1881, a boy, aged 11, tied a piece of cotton three or four times round his penis, two inches from the abdominal wall. Great swelling followed, completely obscuring the cotton. He was treated by a surgeon with cold water compresses, and the swelling was much reduced; but during this time, the cotton became completely embedded in the tissues, and finally cut through the urethra. In June, the urine, which for some time had been passing in diminished and irregular flow, found its way through two small apertures in the upper surface of the penis, and gradually the distal part of the urethra (*i.e.*, the part beyond the cotton) became almost impermeable, so that, when I first saw him, on November 24th, 1881, hardly any urine was coming the natural way. At this date, a piece of cotton was projecting from one side of the old cicatrix which it had formed as it cut its way through; and there was a deep fissure on the upper half of the penis, extending down nearly to the urethra, and at right angles to it. As I could pass no instrument of any kind into the bladder, I determined to operate, and on the following day (November 25th) chloroform was administered, and I cut down through the upper cicatrix into the urethra, which appeared gristly, tortuous, and closed; and instead of being a pliable tube, was composed for an inch and a half of a semi-cartilaginous cord. Having dissected through this, I passed a No. 6 catheter from before backwards, till it came out at the incision. Then came the difficulty of getting it into the bladder, for there was still a stricture, or rather a mass of hard cartilage-like substance, where the urethra had been, behind my incision. I therefore cut into the urethra from below, behind this mass, and passed a catheter forwards until it came out at the first incision. Then, having divided this part of the stricture, a No. 6 gum elastic catheter was passed into the bladder, and tied there. Lastly, I pared the edges of the upper fissure in the usual way, united them with silk sutures, and covered the wounds with dressings steeped in an alkaline solution of creasote. On the 26th, the boy's temperature was 100.6° Fahr.; and on the 27th, 99.6° Fahr.; on the 28th, it was 98.6° Fahr.; and there was no subsequent rise. On the 29th, I found that he had moved the dressings, and allowed some urine to trickle over the wounds; and in spite of the greatest care, the incision on the under surface, which was granulating nicely before this, began to slough over a surface rather larger than a sixpence. I then determined to see whether I could obtain healing without loss of superficies, by means of sponge; so, having applied a solution of zinc chloride on the 29th, I arranged flat pieces of fine Turkey sponge on December 2nd, cut in irregular shapes, and nearly a line in thickness, so as to exactly fill up the wound, and fit under the edges of it wherever these projected. The sponge was covered by gutta percha, this by lint, and the whole kept firmly in place by a strip of India-rubber plaster round the penis. In four days, the sponge adhered, and bled when pricked, and by December 28th the wound was whole, and the sponge entirely absorbed. The catheter was taken out on December 9th, and the urine passed the natural way in a good full stream, the boy remarking that he made water now as well as ever he did. The upper wound healed without any sponge. I advised the boy to come to me, and have a catheter passed occasionally, as it was probable, under the circumstances, that stricture would otherwise eventually result; but I have not seen him since January 18th, 1882, when he was perfectly well. There was then a very slight depression where the sponge had been inserted, and the cicatrix was sensible, though not acutely, to the prick of a needle. He would not allow me to pass a catheter, though I was anxious to do so, to ascertain the state of the urethra.

CASE II.—This was not so interesting in its previous history as Case I. A workman had one side of the terminal phalanx of his left forefinger shaved off by a plane, a clean cut surface being left. When all bleeding had ceased, I applied to this surface a single piece of sponge in the same way as in Case I; and the finger was sound by the end of three weeks. The only difference in the two cases was that, whereas in the former there was a very slight and doubtful odour of putrefaction on the day after application, in this there was a distinctly putrefactive odour for a week after the sponge had been applied, and adhesion took place on the third day instead of the fourth. In both cases, the sponges were saturated with clear watery discharge on the second day.

CASE III.—On April 14th, 1882, a girl crushed the end of her middle finger in a turnip-machine. There was extensive destruction of skin, and I had to remove part of the terminal phalanx. The wound was dressed in the ordinary manner, but, owing to the loss of so much skin, the wound healed very slowly. On May 5th, therefore, I applied sponge, and dressed it every two or three days until June 1st, when the finger was completely healed, and the sponge absorbed.

REMARKS.—The sponges used were the finest grained Turkey I could obtain. They were boiled in a weak solution of hydrochloric acid for some hours, and then steeped for half a day in a strongly alkaline solution of creasote. Before application, they were rinsed in hot water, and cut in very thin slices; and the wounds were syringed with the same antiseptic solution in which the sponges had been immersed, in which also were dipped the gutta-percha and lint. A single layer of each material was applied in the following order—sponge, gutta-percha, lint—and the whole was covered with a broad strip of India-rubber plaster, applied so as to secure firm pressure. In conclusion, I may remark that I have observed that, unless firm pressure over the sponge be used, the granulations will push the sponge away, instead of growing up through its substance. There are two sets of cases in which I have noticed this adhesion of sponge, where no such adhesion has been intended: 1. Where bleeding cavities have been plugged tightly with sponge, as in excision of the eyeball; 2. Where sponge-tents have been used to dilate the cervix uteri, and have been unavoidably left in longer than usual. In both these sets, firm pressure is probably a *sine quâ non* in obtaining adhesion.

* Read before the South-Western Branch.

ON A MODIFICATION OF SPONGE-GRAFTING.

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IN the *Edinburgh Medical Journal* for November last, Dr. Hamilton, now Professor of Pathology in the University of Aberdeen, brought before the profession a method of treating certain wounds, which he, with some appropriateness, named "sponge-grafting." Prepare a piece of a sponge after certain directions, fit it into a depression in the soft parts, and, ultimately, the foreign body will be replaced, and the gap occupied by newly organised tissue; such was the teaching of Dr. Hamilton, and a number of successful cases were cited in demonstration. The theory of the originator is that the force of the blood-current causes an upheaval of the vessels lying on the surface of the wound, and that if a proper support is furnished, new growth will take place in the vessels and cause them to reach still higher levels. Blood-clot or fibrinous lymph supplies this support in many natural processes; a piece of sponge may be made to serve the same purpose. The sponge, having fulfilled this mechanical function, in virtue of its organic nature then undergoes disintegration, and may either be absorbed or discharged gradually.

I selected a piece of fine Turkey sponge, and treated it as instructed, by steeping in dilute nitro-hydrochloric acid, then washing with liquor ammoniæ, and finally setting aside in a one-to-twenty solution of carbolic acid. Some weeks afterwards, I chose an opportunity of testing sponge-grafting, though not in a crucial degree. A man was admitted to this infirmary who, having received a horse-kick on the shin three years before, sufficient only to produce an abrasion of the skin at the time, by incredible neglect had allowed a progressive loss of tissue to go on till an ulcer of the following characters presented. The sore extended almost round the calf, its width varying from two to five inches, its surface was sloughing, discharging profusely, and smelling offensively; the skin around was firmly bound down, and presented an irregular but hard margin to the sore. The man had gone on submitting to matters so long that the knee and ankle-joints were fixed at an angle implying great lameness, while the greatest circumference of the calf was nine inches, as compared with thirteen and a half inches at the corresponding level of the other leg. Measures were successfully employed to produce a clean, and latterly a richly vascular, surface. The level of the sore was now for the most of its extent almost that of the body surface, but at one angle a deeply scooped depression, its dimensions about an inch by an inch and a half, presented. The case was admitted under the care of Dr. J. P. Bramwell, under whose supervision the following treatment was followed out. To the part level with the skin, particles of skin were transplanted, and the results, save at a portion to be hereafter described, have been thoroughly satisfactory. To the hollow referred to, I adapted a piece of prepared sponge fully a quarter of an inch in thickness. Three days afterwards there was adherence of the sponge, and any attempt to detach it pro-