Report of clinical cases under the care of Professor Spence in the surgical wards of the Royal Infirmary, from July 1863 to October 1864 / by William Rutherford.

REPORT

OF

CLINICAL CASES

UNDER THE CARE OF

PROFESSOR SPENCE,

IN THE

SURGICAL WARDS OF THE ROYAL INFIRMARY,

FROM JULY 1863 TO OCTOBER 1864.

BY

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REPORT OF CLINICAL CASES

TREATED IN THE SURGICAL WARDS OF THE ROYAL INFIRMARY, 1863-64.

THE cases given in this Report are the more important ones which occurred during the period.[1]

WOUNDS OF JOINTS.

The following five cases of the above injury, all of which occurred during last summer, will be found interesting, both on account of the nature of the injuries, and the treatment adopted.

CASE 1.—P. C., æt. 21, a strong, healthy young man, was brought to the Infirmary from a neighbouring part of the country on the evening of May 28. In the morning he had been violently ejected from a colliery waggon, against some wooden stakes, the sharp point of one of which penetrated, on the inner side of the patella, into the left knee-joint, producing a slightly lacerated wound, which easily admitted the forefinger into the joint. The knee was acutely painful, even when at rest, and its temperature had risen very considerably. Hæmorrhage from the wound had been but slight. There was also a lacerated scalp wound of a couple of inches in length, unaccompanied, however, by headache or other nervous symptom. He complained of great pain over the spine, in the interscapular region, but no fracture of the vertebræ or ribs could be detected. He had great thirst, but the skin generally was cool, and the pulse only 68. A flannel bandage was rolled round the chest; the wounds of the scalp and knee were carefully cleaned, and their edges brought together by silver sutures, and the limb was placed on an inclined plane. In similar cases, Mr Spence had hitherto employed irrigation to keep the joint cool, but had been so dissatisfied, both with the difficulties which attended

[1] During the period, Dr Cleghorn, Dr Rhind, and myself, successively acted as resident surgeons. The cases are abbreviated from the regular reports of the Wards, which were carefully kept by Messrs Burt, John Rhind, M'Donald, Stone, Muir, Paterson, and Anderson.

its proper application, and the unsatisfactory results which had almost always followed its use, that he determined to try ice. A large gutta-percha bag, containing ice, was placed upon the knee, the wound of which was covered with a small piece of dry lint, which, again, was covered with a large sheet of gutta-percha, so as to render it impossible for the wound to become wetted by the accidental escape of water from the bag. Forty minims of the solution of muriate of morphia were given to soothe uneasiness and procure sleep. During the night he slept soundly, and next morning he had no headache, and the knee was painless.

31*st.*—Stitches removed from both knee and scalp; wound of the former healed by first intention, that of the latter had suppurated. Pulse 90.

1*st June.*—Pulse 100; severe headache. No opiate given since night of admission. Hair to be cut short, and cold applied to the head; and a medium dose of castor oil given. 2*d.*—Had a slight rigor; tongue furred; pulse 102. Headache rather abated; knee slightly swollen, but quite cool. The ice was discontinued for a few hours, and cold water substituted, but as the knee soon became painful, and rapidly rose in temperature, ice was again had recourse to, with the consequent disappearance of these untoward symptoms. In the evening, erythema showed itself around the scalp wound. 3*d.*—Erythema extending. Pulse 104, weak. Four ounces of brandy to be given daily. Fifteen drops of tinct. ferri sesquichlor. every three hours. Saline drinks. Notwithstanding the presence of erythema, cold water was kept applied to the head, as it greatly relieved the headache. 4*th.*—Delirium. Erythema not extending. Pulse 110. To have six ounces of brandy instead of four. 5*th.*—Slept well during the night. Delirium gone. Pulse 96. Erythema disappearing. 8*th.*—Pulse 82, of much improved strength. Erythema quite gone. Brandy diminished to three ounces. Ice removed from the knee, and muslin wetted with cold water substituted, as it was found sufficient to check the tendency to increase of temperature. Cold to the head discontinued. 15*th.*—Scalp wound healed, and pain in the back disappeared. Limb removed from splint. Beer substituted for brandy. Convalescence then rapidly became established, and he was sent to the Convalescent House on 28th June, being then able to walk with the aid of a crutch. He presented himself at the clinique on 28th July; his health was completely recovered, and there was not the slightest stiffness of the joint.

The above was not by any means a favourable case for testing any method of treatment. The patient's constitution certainly was excellent, and the treatment was begun before the joint had inflamed. Still, however, the head injury, and the consequent erythema and delirium, were most serious complications, both from the constitutional irritation which they induced, and the great difficulty experienced in keeping the limb at rest during the delirium.

The case was a typical one for the employment of bleeding, purging, and other antiphlogistic treatment, enjoined at an early period in the treatment of such injuries by many surgeons. Instead of these, however, strong beef-tea, and other nutritious articles of diet, were given from the first.

The following case, which was also one of wound of the knee-joint, forms, in some respects, a striking contrast to the above :—

2.—A. E., æt. 36, admitted 7th July, fell upon the broken edge of an earthenware basin,—the sharp edge entered the left knee-joint, dividing the tendon of the quadriceps extensor, and grazing the upper border of the patella. He was shortly afterwards conveyed to the Infirmary. The wound was sharply incised, and admitted two fingers into the joint. Bleeding—which had been considerable immediately after the accident—had ceased. The edges were brought together by silver sutures ; the limb placed on an inclined plane, and ice applied to the joint in a manner similar to that adopted in the former case. Mr Spence, however, expressed a very doubtful prognosis, for, in addition to the considerable extent of the wound, the patient was syphilitic, and a primary union was, on that account, very doubtful. *8th July.*—Pulse 80. Joint painless. *9th.*—Pulse 100, soft. Tongue furred. Bowels moved by enema. Joint somewhat swollen, but painless. *10th.*—Redness and tension of the wound. A few stitches removed. *11th.*—Tension increased; all stitches removed, and narrow strips of plaster substituted. No union had occurred. During the night the joint had been painful. After the removal of the stitches a little bleeding from the wound took place, which was encouraged by the removal of the ice for an hour. *13th.*—Erythema appeared around the edges of the wound. Suppuration within the joint. Ice discontinued, and a light linseed-meal poultice substituted. Pulse 104, weak. To have have four ounces of brandy daily, and fifteen drops tinct. ferri sesquichlor. every three hours. *14th.*—Erythema spread over nearly the whole thigh. Joint exceedingly painful. Wound enlarged to permit of free discharge, and a counter-opening made on the inner side of the joint. Opiates given frequently. *15th.*—Had a severe rigor. Pulse 120. An abscess, which had insidiously formed on the inner side of the thigh, was opened. To have three ounces of sherry in addition to the brandy. *16th.*—Pleurisy on left side. Bronchitis. *17th.*—Pain in hepatic region. Numerous abscesses formed in the thigh and upper part of the leg, and he grew gradually weaker and died on 30th July. The autopsy revealed the usual results of pyæmia in the liver and lungs. The suppuration in the thigh and leg had occurred within the sheaths of the muscles. The synovial membrane of the joint was covered with weak, flabby granulations, and the cartilage eroded. The question of amputation was considered on the 14th, when it became evident that suppuration was about to extend up the thigh ; but the severe erythema, the patient's general

state, and the excessive mortality after amputation for inflammation of a joint, contra-indicated any active interference.

3.—D. W., æt. 23, a strong, healthy man, received, a couple of hours before admission on 31st May, an incised wound on the inner side of the ankle, opening into the calcaneo-astragaloid joint. The wound, about two inches in extent, was produced by a blow from an adze. There was slight hæmorrhage, easily arrested by cold. Silver sutures; application of ice; union by first intention. Pain, which was severe before, entirely ceased on the application of the ice, and never returned excepting on the fifth day, when the ice was removed for a short time. The severity of the pain and alarming rise of temperature necessitated, however, its re-application for four days longer. He was dismissed on 28th June completely cured.

4.—J. B., æt. 23, admitted on 23d June, shortly after his having received a blow from an adze, over the anterior border of the inner malleolus of the right ankle. There was a semi-lacerated wound, an inch and a half in length; anteriorly it opened into the ankle-joint, and posteriorly it extended deeply into the osseous substance of the malleolus. The hæmorrhage, which was pretty copious, was suppressed by cold; the wound was cleared, but not entirely, from particles of dust and sand; sutures introduced; limb laid on a splint, and ice applied. Permanent union by first intention took place in the front of the wound, which opened into the joint; and superficial union of the lips of the wound over the bone on 1st July; however, a small abscess began to form in the angle of the wound over the bone. Tepid-water dressing was substituted for the ice. The progress of the case was tedious, owing to the formation of small sinuses above the ankle. No inflammation, however, ever appeared in the joint. Dismissed cured on 12th August.

It is probable that, had the occurrence of inflammation not been long delayed by the low temperature employed, the wound of the joint not having firmly closed, and the joint not having had sufficient time to recover from the irritation of the wound, it would have participated in the inflammation, and a result, much less satisfactory, have ensued.

5.—Mary R., æt. 50, admitted 25th August 1864. On the preceding day her right ankle was caught in the shears of a reaping machine, which divided all the tendons on the front of the ankle, together with the anterior tibial artery and nerve, and cut into the tibia, just above its articular surface, to the depth of nearly half an inch. There had been but slight hæmorrhage, as, owing to the bluntness of the blades, the artery had been torn. A medical gentleman secured the limb by side splints, and ordered cold-water cloths to be constantly applied; the wound was, however, allowed to remain open. On arriving next day at the Infirmary, after having travelled many miles, she was suffering from severe prostra-

tion, and acute pain in the wound and joint. The latter did not appear to have been opened, in the first instance; but on the ankle being extended during the examination of the wound, a small opening was made in the capsule of the joint. Fortunately, no symptoms of irritation had appeared in the wound, so that sutures were introduced; and as the temperature of the dorsum of the foot was already lowered, by deficient circulation, it was deemed imprudent to depress it further. A small bag of ice was, therefore, placed on either side of the ankle, and the limb secured on a wire splint, with the foot raised. As her strength had suffered severely, a daily allowance of three ounces of wine was ordered. Shortly after the application of the ice, the pain entirely disappeared, and she slept soundly during the night without the aid of an opiate. 26*th.*—Pulse 90. Tongue furred. Bowels moved with the aid of an enema. Ordered fifteen drops tinct. ferri sesquichlor. thrice daily. 29*th.*—All stitches removed, and tepid-water dressing substituted for the ice, as a thin slough was beginning to form on the edges of the wound. Primary union had, however, occurred to a slight extent. 30*th.*—Joint a little painful and somewhat swollen. 3*d August.*—A small abscess on the inner side of the joint. The further progress of the case was tedious. The slough separated, and a weak, granulating sore remained, which healed so slowly that she was unable to leave the hospital before 28th October. Then, however, she was able to walk with the aid of a crutch. The joint was perfectly movable.

Remarks.—In treating a wounded joint, two objects are aimed at,—to obtain primary union, and to prevent inflammation of the joint. For their accomplishment, local and general measures have been proposed, the former of which are the more important, and include rest, position, and cold.

The employment of ice as the cooling agent is not a novel practice, but it is not so generally adopted as its merits appear to warrant.

It is much to be preferred to irrigation with cold water, both, because a *dry* cold is obtained, and a lower temperature produced, and because it can be much more easily and efficiently applied. With irrigation, the wound and surrounding skin are constantly kept in a sodden condition, so that primary union is frequently prevented, and a painful state of the skin often produced. Moreover, the patient is liable to catch cold, from his clothes and the supports of the limb being constantly kept soaking with wet; for, in the case of the knee and ankle, at least, it is almost impossible to confine the water to the limb, and prevent its wetting everything. With ice, everything can be kept perfectly dry, by enclosing the ice in gutta-percha bags, and by adopting the additional precaution of covering the wound with a large sheet of the same material, to prevent any accidental escape of water from reaching it. Were it even possible, however, to use irrigation without wetting the wound

and surrounding skin, ice would nevertheless be preferable, on account of the lower temperature produced by it. When Cases 1 and 2 were under treatment, the supply of ice several times became exhausted, and during the intervals the joints had to be kept cool by irrigation, which was never adequate to prevent a rise in temperature, and the joints from becoming painful; the re-application of the ice always depressed the former and removed the latter.

The semi-anæsthesia produced by ice is generally sufficient to remove the pain until suppuration sets in; afterwards, its influence in that respect is not so decided. In order, however, to keep the patient at perfect ease, the bag must be promptly refilled as soon as the ice has melted; for, unless an equable low temperature be prescribed, pain is not completely removed; in some cases it is even exaggerated, and possibly the non-attention to this may, to some extent, explain the difficulty with which ice is borne by some patients of irritable temperament. The low temperature, so far from being hostile to the nutrient changes requisite for primary union, is, through its power of preventing inflammation, one of the best aids to primary union that can be adopted. During the late campaign in Schleswig-Holstein, the surgeons to the allied armies applied ice to all wounded joints, and to nearly every stump after amputation; and the general conclusion arrived at was, that where it was employed, primary union was more frequent and more extensive, and that the ensuing suppuration was always less. These results ensued whether the ice was supplied only until the commencement of inflammation, as practised by Langenbeck, or when it was kept applied until the wound had almost entirely healed by the second intention. The practice of continuing the application of cold after inflammation has set in has generally been considered a dangerous one by the surgeons of this country; but, contrary to what might have been anticipated, the cases treated on the principles of Esmarck succeeded almost as well as those where Langenbeck's practice was adopted.

Joints wounded by gunshot are, of course, much less amenable to conservative treatment than where the wound is simply incised. In the former case, to be sure, the wound may be of such slight extent, as regards the joint, that they are not very formidable. There occurred, however, in the above-mentioned campaign, a gunshot wound of the knee-joint, of a very serious nature, which was successfully treated by ice. The patient, a young man, received a shot on the outer side of the thigh; the ball passed obliquely through the outer condyle of the femur, down through the knee, and out through the inner tuberosity of the tibia. Ice was carefully applied for many weeks until the wound had nearly healed, and complete recovery *without* anchylosis followed. Langenbeck was of opinion, that the synovial membranes having, in all probability, escaped injury, had favoured the happy result; but he at the same

time attributed the success very largely to the careful application of ice from the commencement. That ice, however, is not sufficient to prevent inflammation, even in those cases where the wound is incised and clean, was evident from Case 2. There, however, as previously stated, the patient's constitution was largely to blame. It would, however, be worth while investigating, whether or not a lower temperature than that produced by ice might not advantageously be employed in some cases where the tendency to inflammation is unusually decided, either from constitutional peculiarity or the nature of the wound. We do not as yet know the lowest temperature at which a part of the body in a normal state may be kept by *dry* cold, without serious interference with its nutrition; still less do we know to what depth of temperature a wounded part may be safely lowered. Should it be found that a lower temperature than that produced by ice can be borne, its production could be effected without much difficulty by the employment of various frigorific mixtures, graduated according to the temperature required; and they could without difficulty be prevented from coming in contact with the wound, by enclosing them in thick gutta-percha bags, and by laying a sufficiently large sheet of the same material between the bag and the wounded part. In applying ice to a wound, common bladders ought never to be used if gutta-percha can be obtained, as they very soon allow the water to ooze through, and, notwithstanding the low temperature, soon undergo decomposition; moreover, gutta-percha is cheaper, and bags can be made very easily, by simply wetting the margins of the pieces to be joined together with chloroform, and holding them in apposition until they dry. In the removal of loose cartilages from the knee-joint, by subcutaneous or direct free incision, were ice constantly applied to the part after the operation until all tendency to inflammation had ceased, the serious consequences which have so frequently followed these operations hitherto would in all probability be frequently averted; possibly also its employment might often be found serviceable after subcutaneous section of tendons and several other operations.

Injuries of the Head and Spine.

Case 1.—Alex. L., æt. 26, admitted on account of fungus cerebri, had sustained compound fracture of the frontal bone, with severe concussion, ten weeks previously. The medical gentleman who attended him removed the broken fragments, had the head shaved and ice applied. On the second day, as the state of coma continued, he was bled largely and purged; notwithstanding which, and in spite of the continued application of the ice, he did not recover consciousness until the seventh day after the accident. A portion of the dura mater sloughed, permitting the formation of fungus cerebri, a considerable portion of which also sloughed off. The treatment adopted in the hospital consisted of astringent applica-

tions, such as alum and sulphate of copper, with pressure by plaster and bandages. He went to the country two months after admission, the wound having almost entirely cicatrized, and the fungus disappeared.

2. Mary K., æt. 17, fell while getting out of a cab in motion; the wheel passed over her head, and produced an extensive lacerated scalp wound. Silver sutures introduced; hair cut short; ice applied. On the fifth day the pulse rose to 98, and she was consequently ordered 25 min. of antimonial wine and 2 drs. of liq. ammon. acet. every three hours. Next day the pulse fell to 80, and the antimonial wine, etc., were discontinued. Recovery.

3. Francis M., æt. 42. Three lacerated scalp wounds of considerable extent, produced by blows from a hatchet. Erysipelas. Recovery.

4. Mary M., æt. 64. Wound of eyebrow, from falling down stairs. Deep-seated suppuration in orbit. Recovery.

5. Patrick M., æt. 42. Punctured wound of eyebrow. Suppuration in orbit. Erysipelas. Meningitis. Death.

6. C. F., æt. 39. Semi-lacerated wound, from blow of poker, over left parietal bone. Recovery.

7. Eliza C., æt. 38, a fortnight before admission, fell down stairs and struck her head violently against the wall; was unconscious for half an hour afterwards; had suffered since the accident from frequent sickness, pain passing round the head, and occasional rigors. A tolerably distinct depression was felt under the scalp, over the coronal suture. Pulse 104, weak; tongue furred; surface covered with cold perspiration. Hot fomentations were applied to the head to relieve the pain, and she was kept quiet in bed for a fortnight. Recovery.

8. Margt. L., æt. 23. Two semi-lacerated wounds of the scalp, produced by falling down stairs. Erysipelas. Bronchitis. Recovery.

9. Catherine G., æt. 12, injured the back of her head by falling backwards down a stair. Chorea ensued, but no depression or fracture could be detected, and, as she was otherwise well, expectant treatment was adopted. She rapidly recovered; and left the hospital three weeks after the accident, completely recovered.

10. Henry H., æt. 53, fell backwards from a hay-stack, a height of fifteen feet, upon the ground, and injured his spine. When he endeavoured to move, he complained of acute pain in the lumbar spine. No fracture of the vertebræ could be detected. During the first day after the accident, sensibility and motion of the lower limbs remained unimpaired; but on the second morning, he discovered that he was unable to move them, and that he could not micturate. On the second day, six ounces of blood were removed by cupping in the lumbar region, after which ice was applied to the spine; a purgative was administered, and he was ordered to take ʒss. liq. ergoti, thrice daily. No improvement followed. Fever-

ishness, accompanied by excessive thirst, supervened; the pulse rose to 120; the limbs became insensible on the fourth day. He grew gradually weaker, and died a month after the accident. An autopsy could not be obtained.

Mr Spence's opinions upon head injuries have been so fully given in former reports that it is unnecessary to repeat them in this.

Amputations.

PRIMARY AMPUTATIONS.

Shoulder-joint.

1. James M., æt. 23, on the day previous to admission had had his right arm crushed by a thrashing machine. Soon after the accident, his medical attendant amputated below the tuberosities, without the aid of chloroform. On admission, Mr Spence re-amputated at the shoulder-joint by a long external and internal flap, as the flaps in the previous operation had been made much too short. Recovery.

Arm.

2. Mary C., æt. 60. Compound dislocation of elbow and wrist. Amputation at middle of arm by equal flaps. Pyæmia. Death.

Fore-arm.

3. Alex. D., æt. 11. Hand and lower part of fore-arm crushed by printing-machine. Amputation by equal flaps below elbow. Recovery.

Hip-joint.

4. E. B., æt. 6. Half an hour previous to admission the wheel of a heavily laden cart passed over her right knee and left thigh, producing a severe lacerated wound of the former and compound comminuted fracture of the latter, with extensive disorganization of the textures on the front of the bone, to within three or four inches of Poupart's ligament. There had been considerable hæmorrhage after the accident, which had ceased, however, before reaching the Infirmary. Brandy and ammonia were freely given to rally her from the shock; and when she had sufficiently recovered, Mr Spence amputated at the hip-joint by a long posterior and short anterior flap. He experienced considerable difficulty in disarticulating, owing to the shortness of the upper fragment of the femur rendering extension and rotation very difficult; there was but little hæmorrhage during the operation, and none secondarily. Sloughing of a portion of the short flap occurred; and, notwithstanding the liberal administration of stimulants and nutritious soups, she grew gradually weaker, and sank on the fifteenth day after the operation.

Thigh.

5. James B., æt. 9. A cart-wheel had passed over the right foot

and ankle, producing compound comminuted fracture of the tibia, with fracture and partial dislocation of the astragalus. He was brought to the Infirmary at night, shortly after the accident; as the temperature of the foot was good, and the textures did not seem to be very extensively disorganized, the artragalus was replaced, and the limb laid on a pillow, and lightly covered with cotton wadding. Next day gangrene appeared, and Mr Spence amputated below the knee; but finding that, even there, the textures had also suffered from the injury, he had recourse to amputation at the lower third of the thigh by long anterior flap. Necrosis of some small fragments of the lower extremity of the bone rendered the progress of the case tedious. Recovery.

Leg.

6. John M'D., æt. 22. Railway waggon passed over ankle, producing such complete disorganization of the parts, that amputation was performed below the knee immediately after admission. Recovery.

7. Robert F., æt. 24. Foot and ankle crushed by a cart-wheel. Amputation below knee by modified circular method. Recovery.

8. A. M., boy, æt. 5. Foot and ankle severely lacerated by a weaving machine; severe hæmorrhage. Amputation at middle of leg. Sank on the second day after the operation.

9. Margaret H., æt. 60. Compound dislocation of ankle, fracture of inner malleolus, with extensive laceration of soft parts above the ankle. Amputation below knee by long posterior flap. Erysipelas; pyæmia. Death.

Foot.

10. Robert K., æt. 21. Four outer toes crushed by railway waggon. Toes and portions of the corresponding metatarsal bones amputated. Recovery.

SECONDARY AMPUTATION FOR INJURY.

Fore-arm.

11. Helen T., æt. 24. Had the back of her hand punctured by a table-fork seven weeks before admission. Extensive sinuses had formed, which palliative measures failed to cure. Amputation at middle of fore-arm. Recovery.

Thigh.

12. Jane G., æt. 20. At the age of ten years had had her right leg and foot extensively burned. The development of the limb was in consequence arrested, and ulcers frequently formed in the cicatrix. Amputation at upper third of thigh by equal flaps; the long anterior flap could not be adopted, owing to the extension of the cicatrix on the anterior aspect of the thigh. Recovery.

SECONDARY AMPUTATION FOR DISEASE.

Arm.

13. E. B., æt. 23. Synovial degeneration in wrist and elbow. Amputation at lower third of arm. Recovery.

14. Mary M'D., æt. 18. Excision of the elbow for scrofulous disease had been performed a year previously by Mr Spence. Four months previous to her re-admission the same elbow became swollen and covered with small ulcers. Amputation at middle of arm by equal flaps. Recovery.

Fore-arm.

15. E. B., male, æt. 23. Caries of carpus and metacarpus of two years' duration. Amputation at middle of fore-arm. Pyæmia. Death.

Wrist.

16. A. C., male, æt. 17. Nine years before, Mr Spence had removed the fore-finger for caries, which had now attacked the carpus. Amputation at wrist by double flap. Recovery.

Thigh.

17. W. H., male, æt 17. Ulceration of cartilages and synovial degeneration of knee; had been several times in the hospital, and palliative measures had been used for a lengthened period without avail. Amputation by long anterior flap at lower third of thigh. Pyæmia. Death.

18. Mary L., æt. 12. Scrofulous disease of knee of eight years' standing. Amputation at lower third of thigh, long anterior flap. Recovery.

19. Jane D., æt. 40. Scrofulous disease of knee of five years' duration. Amputation at lower third of thigh, long anterior flap. Recovery.

20. S. R., female, æt. 16. Scrofulous disease of knee. Amputation at lower third of thigh, long anterior flap. Recovery.

21. Janet M'D., æt. 46. Scrofulous disease of knee of four years' duration. Amputation at lower third of thigh, long anterior flap. Pyæmia. Death.

22. Peter K., æt. 10. Ulceration of cartilages and synovial degeneration of knee. Amputation at lower third of thigh, long anterior flap. Recovery.

23. Jane M'D., æt. 22. Scrofulous disease of knee, suppuration within the joint. Amputation at lower third of thigh, long anterior flap. Recovery.

24. Wm. R., æt. 16, an extremely delicate youth, had had scrofulous disease of knee for three years. On admission, palliative measures were tried; the limb was laid on a wire splint, and lead and opium fomentations were constantly applied; suppuration within the joint occurred, and amputation was had recourse to at the lower

third of the thigh by long anterior flap. Died from exhaustion eight days after the operation.

Leg.

25. Eliza L., æt. 37. Large constitutional sore on lower part of leg, of 2½ years' duration, which had resisted ordinary curative measures. Amputation below knee, long posterior flap. Recovery.

26. E. M., female, æt. 48. Talipes varus of left foot, with a large ulcer above the ankle, which had resisted all palliative remedies. She had taken opium for fifteen years. At her own urgent request the limb was amputated below the knee by long posterior flap. Large opiates required to be given to procure even broken sleep. Secondary hæmorrhage occurred, and the wound had to be laid open to arrest it. The whole surface of the wound sloughed. Died on the seventh day after the operation.

Ankle.

27. George M., æt. 16. Scrofulous disease of ankle. Syme's amputation. Recovery.

28. Colin M., æt. 14. Serpiginous ulceration of foot and toes of two years' duration. Syme's amputation. Recovery.

29. John C., æt. 12. Caries of tarsus. Amputation by large internal flap. Recovery. This modification of the usual operation was rendered necessary by ulceration on the outer aspect of the heel.

30. Janet K., æt. 16. Caries of tarsus. Syme's amputation. Pyæmia. Death.

Remarks.—The results of these amputations are not so favourable as those of several former years,—a circumstance which must be attributed to the unusual prevalence of pyæmia, which was not, however, confined to Mr Spence's wards, but prevailed throughout the whole Surgical Hospital. Of the ten deaths, six were due to pyæmia; two of these were cases of primary amputation, and the remaining four, amputations for disease. Recovery was hardly to be expected in the case of the little girl (4.) who was the subject of amputation at the hip-joint. The loss of blood, severe shock, and the severe injury to the other limb, greatly lessened her chance of recovery; and, moreover, her constitution was one of the most delicate. Strange to say, two years before the accident, she had had scrofulous disease of the knee, of the same limb which was amputated; and, but for the opposition of her mother, the limb would then have been removed by a surgeon, who deemed the disease not amenable to milder treatment. Under Mr Spence's care she had quite recovered, and was able to run about when the unfortunate accident occurred. In Case 8, death was due to sinking on the day following the operation: the excessive hæmorrhage which followed the accident being the chief cause. In Case 24, palliative measures were fairly tried before having recourse to the operation,

which was performed to afford him the only remaining chance, and that a very slender one, considering the degree of weakness to which the lingering disease had reduced him. In Case 26, the operation was very reluctantly undertaken, because of the unhealthy state of the patient's constitution, due both to her having had syphilis and to her habit of opium-eating; it was, however, almost an operation of necessity on account of the incurable ulcer, for which she had been previously treated in Mr Spence's wards; and as the patient was most anxious for the operation, and willing to incur its risks, in order to get rid of her deformity and disease, the chance was afforded her. As the stump was very carefully opened on the same day as the operation, on account of reactionary hæmorrhage, the sloughing of the wound which afterwards occurred was probably entirely due to her depraved state of health. The successful result in the case of amputation at the shoulder-joint was remarkable, considering that the patient had sustained a severe injury, two amputations so near the trunk, and had travelled a distance of twenty miles, all within thirty-six hours. Had the patient's constitution not been most robust, the issue would probably have been different.

Were the statistics which these operations afford taken as illustrating the general results of Mr Spence's amputations, the same error as is always committed by those who draw up statistics from a short period, more especially if it be one where an exceptional state of things exists, would be fallen into. This serious mistake was committed by Peacock, in the last published statistics of operations performed in the Edinburgh Royal Infirmary. These statistics, always quoted when the results of operations in Edinburgh are referred to, are calculated seriously to mislead, because they are almost entirely limited to a period when there was quite an unusual number of primary operations for accidents sustained in extensive railway works which were then going on. There is reason to believe that were the statistics of the hospital for a number of years back published, they would be found to compare very favourably with those alluded to. I am not at liberty to refer to any operations excepting those performed by Mr Spence. It may be interesting, however, to take a single operation and compare the results obtained by him with those given by Peacock. According to Peacock, the mortality following amputation of the thigh, primary and secondary taken together, is 1 in 3. In the cases of primary amputation of the thigh performed by Mr Spence since his connexion with the Infirmary, the average of deaths has been about 1 in 2; while out of 52 cases of amputation for disease of the knee-joint only 8 have died, or 1 in 6½. The statistics of many operations, however, will require to be given in a much more complete form than they have usually been before they can be thoroughly reliable as a means of estimating the value of the operation or the practice of the surgeon. In amputation of the thigh,

for example, cases of primary and of secondary amputation, with rates of mortality so widely different; amputations in the lower, middle, and upper thirds, with a different rate of mortality in each situation; amputation for various diseases, no two of which have the same rate; amputations performed at different ages; and amputations, followed by various methods of after-treatment; all these widely different varieties, each of which may preponderate, are thrown together, and the resulting statistics deprived of much of the value they might otherwise possess, were a more minute and special system adopted.

As the treatment of a case previous to and after operation is a subject upon which the greatest difference of opinion prevails, a short account may be given of Mr Spence's practice in this particular. Previous to the operation, an alterative or mild purge is given if necessary, in order that the digestive system may be placed in as favourable a condition as possible. On the morning of the day of the operation, the patient receives nothing but a cup of tea, some dry toast, and a little brandy or wine, in order to lessen the liability to sickness under chloroform; a precaution, which, if adopted in several continental hospitals, would save the operator from frequent inconvenience, and the onlookers from disagreeable sights. Should the patient evince much nervousness, he is put under chloroform in bed, and afterwards taken to the operating theatre, and not allowed to awake unless under exceptional circumstances, until he has left it. Twenty or thirty minims of sol. mur. morph. are usually given immediately after his being placed in bed, but if there is any tendency to sickness, the liq. opii sedativ. is preferred. During the progress of the case, opiates are given at bed-time when required. At first the diet is simple but very strengthening, consisting of strong beef-tea and farinaceous food, by-and-by fish, and afterwards, a chop or steak is added, as the appetite improves. Although Mr Spence gives stimulants largely, no such thing as a routine practice, in that respect, is pursued; in many cases none are given at all, in others, only malt liquors, while in some, brandy or wine are given from the beginning: the state of the pulse and the appearance of the wound being the chief indications attended to in each case. Tonics are given if required; they usually consist of quinine or gentian, with hydrochloric acid. As regards the local treatment: during the operation,—ligatures, torsion, and cold water are the hæmostatic agents employed, and the wound is closed immediately on the cessation of the oozing by silver sutures, no strips of plaster are employed at this stage, as is the practice of many surgeons, but a simple strip of dry lint is laid along the wound, and a roller applied if there be any tendency to oozing; it is removed, however, soon after the patient is placed in bed, in order that the wound may be kept as cool as possible. The sponges used at the operation are always previously soaked for half an hour in dilute hydrochloric acid, in order that they may be thoroughly

cleansed from decaying organic particles. When tension occurs in the wound, sutures are of course removed as may be deemed necessary, and short strips of adhesive plaster substituted, which is always heated by being dipped in very hot water, which is always more easily obtained than a hot iron, makes the plaster lie much smoother, and does not alter the composition and diminish the adhesiveness of the plaster, as the hot iron is apt to do. For the dry lint dressing, lint dipped in hot water and covered by gutta-percha, is substituted as inflammation and suppuration set in. If there is the slightest tendency to fetor, the wound is washed with dilute Condy's solution (permanganate of potash); the two stimulating lotions employed are zinc lotion, and dilute solution of chlorinated soda, —the latter is preferred when fetor is present, and is, both on account of its stimulating and disinfectant properties, one of the best lotions that can be used. Nitrate of silver or sulphate of copper are used for exuberant granulations, or when the surface is grey or diptheritic. If sloughing occur, a light charcoal poultice is constantly applied, followed by chlorinated soda lotion, when the greater part of the slough has separated. Erythema is treated by hot fomentations, and the internal exhibition of tinct. ferri sesquichlor. Erysipelas is treated similarly; but dusting with flour is sometimes substituted for the hot fomentations. If pyæmia attack the patient, quinine and stimulants are chiefly employed.

Very different from the above simple and successful treatment is that adopted by most continental surgeons: instead of keeping the wound cool, more especially immediately after the operation, they cover it with all sorts of heating dressings, so that primary union is extremely rare, and gangrene, erysipelas, and pyæmia, the most common of accidents. By Langenbeck and Willms, in Berlin, however, a treatment similar to that above given is adopted, with the best results; and Maisonneuve, in Paris, employs a treatment based on similar principles;—glycerine and water are his most frequent applications; aromatic wine if the wound be indolent, and very dilute phenic acid when a disinfectant is required. He properly avoids the use of sponges for dressing; but, on the other hand, he almost never passes a stream of simple water over any wound, however fetid, so that, although the treatment is a great improvement upon that pursued by most other French surgeons, it is still inferior to that employed in this country. Nélaton pours alcohol over the cut surface immediately after the operation, with a view of forming a coating of coagulated albumen, and to disinfect the wound; primary union is consequently rare in these cases, and the frequence of dangerous complications but little affected. The prominent feature of French surgery is, the number of most ingenious devices, whereby a clean cut surface may be avoided, on account of the supposed dangers which it entails. A proper hygienic regime is generally overlooked in the hospitals, with the disastrous consequences which every one knows. That pyæmia is largely owing to non-attention to

hygienic measures, is an opinion which obtains but little credence; only the other day, Maisonneuve delivered a lecture in which he said, that the idea of pyæmia being in any way connected with peculiar atmospheric changes, or insufficient ventilation, is quite a mistake, and that, on the contrary, it is altogether dependent upon the entrance of pus into unclosed veins. Whatever be the proximate or immediate causes of pyæmia, one thing seems quite certain, viz., that in proportion as the wards of an hospital have been kept pure and clean, with an abundant supply of fresh air; and in proportion as wounds have been dressed lightly, simply, and cleanly, the frequency of pyæmia, erysipelas, and gangrene, has greatly diminished.

Excision of Joints.

Shoulder.

1. Jane C., æt. 20. Caries of head of humerus. Excision by linear incision. Recovery.

Elbow.

2. M. C., female, æt. 22. Synovial degeneration. Excision by linear method. Recovery.

3. E. S., female, æt. 19. Synovial degeneration. Excision by linear method. Recovery.

4. David S., æt. 15. Synovial degeneration of fifteen months' duration. Incipient phthisis. Excision by linear method. Pleurisy. Death.

5. John H., æt. 30. Six weeks before the operation, he had sustained compound fracture of the radius and ulna, near the elbow-joint. Mr Spence put up the fracture in rectangular pasteboard splints; the patient insisted upon going to the country; he returned with a number of suppurating sinuses leading into the joint. Excision by linear method. Secondary abscesses. Recovery.

6. Wm. A., æt. 56, sustained a compound comminuted fracture of the condyles of the humerus, two years previously. A surgeon had removed some fragments of bone, but did not excise the joint: almost complete anchylosis followed. A week previous to admission he fell upon the same elbow, inflammation and suppuration resulted, and the consequent formation of two sinuses leading to the joint. When the inflammatory action had somewhat subsided, the joint was excised by the linear method. Pyæmia. Death.

Wrist.

7. Wm. F., æt. 30. Rheumatic arithritis of wrist, of three years' standing. Joint excised by two lateral incisions. The wound progressed very slowly; necrosis of the lower end of the radius occurred; and, four months after the operation, severe hæmorrhage occurred from ulceration of the radial artery, in consequence of which amputation was performed below the elbow by equal flaps. Recovery.

On dissection, the extremities of the bones were found to be quite bare. The whole thickness of the lower fourth of the radius had necrosed; the bones seemed to be generally in an unhealthy state, for both the radius and ulna at the seat of amputation were found to be unusually soft and spongy.

Knee.

8. Jane M., æt. 20. Ulceration of cartilages, which the actual cautery and other remedial measures had failed to check. Excision by semilunar incision. Patella allowed to remain, and immediately after the operation the limb was placed on Ferguson's splint; and, three months afterwards, it was laid between two long bags filled with sand, and at the end of another month the limb was put up in a starch bandage, with lateral pasteboard splints, and she was allowed to walk about with the aid of a crutch. The slow recovery was due to necrosis of some small fragments of the lower end of the femur. A satisfactory result was, however, obtained; the joint being slightly movable, but sufficiently rigid to afford an excellent support.

Remarks.—In excision of the elbow, Mr Spence generally adopts Langenbeck's incision. With it the operation is a little more difficult than with the H incision; but the difference is of little moment. The wound can be much more easily dressed, and is not subject to the protracted healing which follows the non-union of the transverse part of the H incision by first intention. Further, passive movement can be begun much sooner with the former than with the latter; the only objection to which it is open, is the tendency to the accumulation of discharge within the inner part of the wound, which, however, may be easily remedied by piercing the inner flap, and drawing the ligatures through the counter-opening. In doing so, the position of the ulnar nerve must be regarded. In Case 4, phthisis existed in the first stage, previous to the operation, and some surgeons would probably, on that account, have declined to operate; but, although the result was unfortunate in this case, it has been the experience of Mr Spence, and also that of Langenbeck, that very frequently, in such cases, the phthisis, if not far advanced, so far from becoming active after the operation, undergoes improvement, and that, not only after the wound is healed, but during the healing process.

Although the case of excision of the wrist terminated unfavourably, Mr Spence intends repeating the operation on the first suitable case, as the result was probably altogether due to peculiarity in the patient's constitutional state.

Langenbeck, who, perhaps of all surgeons, has had the greatest success in excision of joints, always performs the operation subperiosteally; that is, before removing the bone he makes a longitudinal incision through the periosteum, and carefully separates it from the bone to be removed; the procedure is difficult, more

especially in the case of the wrist, but the results are excellent: of the many cases in which Langenbeck has excised the elbow subperiosteally, in only one has necrosis taken place, and it was a case where the joint was excised for compound comminuted fracture by gunshot, of the lower extremity of the humerus. After all excisions Langenbeck places the limbs in plaster of Paris immediately after the operation, and they are kept at rest in it until the wound has nearly healed. In excision of the knee he always adopts a linear incision, with a central arch round the inner border of the patella; he leaves the patella, unless there be anchylosis or extensive disease, and avoids division of the ligamentum patellæ, or of the tendon of the quadriceps extensor; the patella is everted, and the bones sawn from behind, forwards; he is careful to remove only a thin plate from the head of the tibia, so as to preserve intact the attachment of the lig. patellæ to the tubercle. This method is more difficult than those in which a semilunar or H incision is employed, and the patellar ligament or quadriceps extensor tendon divided, but it is followed by the most satisfactory results. A counter opening for discharge is made into the joint, on the outer side of the patella, which is the dependent part when the patient lies on his side, as he may easily do when plaster of Paris is used. Langenbeck uses longitudinal incisions in excision of the knee and elbow, chiefly because of their greater adaptability to the after-treatment by plaster of Paris; for, as the wound must remain uncovered, a longitudinal break in the plaster detracts less from its strength than a transverse one is found to do.

In excision of the ankle, in which the above-mentioned surgeon has been so successful, he makes a longitudinal incision over the lower end of the tibia, and not over the fibula as is usually recommended, and he never makes a transverse or crescentic incision on the outer and anterior aspect of the joint. In some of Langenbeck's cases, the patients walked so well after recovery from the operation, that, unless on close inspection, one could hardly have told that an operation had been performed.

Tumours.

Adipose Growths.

1. Alex. B., æt. 56. Large fatty growth over scapula. Excision. Recovery.

2. Eliza L. Fatty tumour over deltoid muscle. Excision. Recovery.

3. James J., æt. 62. Pedunculated fatty growth of hip; four pounds in weight had existed for thirty-six years; but had not produced any uneasiness excepting from its bulk, until within a few weeks of his application to Mr Spence, when it had become the seat of stinging pains. Excision. Recovery.

4. Eliza M., æt. 56. Adipose growth of hip; double the size of a fist; had existed for twenty-one years. Excision. Recovery.

Fibrous Growths.

5. Wm. R., æt. 32. Fibrous tumour over parotid. Excision. Recovery.

6. E. H., æt. 60. Fibrous growth in axilla; had existed for fifteen years without giving her any but slight occasional uneasiness; latterly, however, she had experienced sharp, shooting pains, extending round to the breast, and down the arm; the axillary glands had undergone some enlargement. She had for many years been subject to asthmatic attacks, often of alarming severity, but at the date of admission she was unusually well, and so anxious to have the growth removed that Mr Spence had no hesitation in excising it. The wound healed entirely by first intention, and she progressed most satisfactorily until the fifth night after the operation, when, owing to the carelessness of a night nurse, a window was allowed to remain open, from which she caught cold. An attack of asthma ensued, of such severity that, notwithstanding the early and diligent use of antispasmodics and other remedial agents, she died in the course of a few hours.

The tumour was examined microscopically, and found to be purely fibrous.

Fibro-cartilaginous Growth.

7. James J., æt. 14. Fibro-cartilaginous tumour in the tendon of the long head of the crural biceps. Excision. Pyæmia. Death.

Adenoid Growth.

8. J. B., æt. 45. Adenoid tumour of breast of fifteen years' duration; the size of an orange; had lately begun to grow rapidly, and to be the seat of occasional pain. Excision. Recovery, long delayed by sloughing of the adipose tissue.

Cystic Growths

9. Alex. T., æt. 66. Cyst, double the size of a hen's egg, adherent to the tenth left costal cartilage, had existed for four years. The skin over it had ulcerated. Excision. Recovery.

10. Mary B., æt. 53. Cystic tumour of breast. Excision. Recovery.

Erectile Growth.

11. E. M., female, æt. 64. Erectile tumour on dorsum of foot; superficially ulcerated. Excision. Recovery.

Scirrhous Growths.

12. S. P., æt. 46. Scirrhus of mamma; skin unaffected; axillary glands but slightly enlarged. Excision. Recovery.

13. J. M., æt. 37. Scirrhus of mamma; skin unaffected; axillary glands very much enlarged. Removal of breast and diseased axillary glands. Recovery.

14. A. M., æt. 50. Scirrhus of mamma; skin ulcerated; axillary glands considerably enlarged; cervical glands unaffected. General health pretty good. Excision of breast and diseased axillary glands. Recovery.

Encephaloid Growth.

15. Mary C., æt. 65. Encephaloid tumour in left side of lower jaw, of six months' growth. Cervical glands not enlarged. Removal of the whole of the diseased half of the jaw, together with a thin scale from the right side of the symphisis. Erysipelas. Death.

Epithelial Growths.

16. J. B., æt. 46. Epithelial cancer of penis, of one year's duration. Amputation. Recovery.

17. E. G. female, æt. 46. Extensive ulcerated epithelioma of one side of lower lip, which had destroyed the soft parts so extensively that the saliva was continually trickling from the mouth, producing excessive irritation both of the ulcerated surface and the skin below it. The growth had existed for five months, yet notwithstanding the irritation to which it gave rise, the rapidity and extent of the growth, the cervical glands had undergone but very slight enlargement; her general health, moreover, was tolerably good. Mr Spence removed the growth, and dissected a flap from below the jaw, wherewith to form a new lip.

Secondary hæmorrhage, unfortunately, supervened, which necessitated the removal of the stitches, in order to secure the bleeding vessel. On the following day the new lip was erythematous. Erysipelas supervened, extending round the head and neck. Delirium. Death.

Remarks.—In addition to the above there were many cases of epithelioma of the lip, of small extent, all of which were successfully operated upon after the usual manner. A case of medullary cancer of the lower jaw, with several ulcerated openings leading down to the growth; the cervical glands were enormously enlarged, and the patient in an excessively weak and cachectic condition; surgical interference was refused. There were also several cases of cancerous breasts, which were deemed unsuitable for operation; indeed, it is not improbable that operative interference would have been refused, in Cases 13 and 14, by many surgeons, for in both the axillary glands were decidedly affected, and in the latter there was in addition an open sore over the diseased breast. Fortunately, there was no evidence of internal organic disease in either case, and the general health was wonderfully good; in Case 14 there were general symptoms present which might hastily have been regarded as cachectic, but which were considered to be sufficiently accounted for by the exhaustion resulting from pain and discharge. In consideration of the tolerably satisfactory general health, and the patient's anxiety for an operation, Mr Spence decided upon giving her a chance of a short respite from her disease, duly reminding her of the almost certainty of a speedy return of it. In both cases the affected glands were removed by extending the original incision downwards into the axilla. Case 14 returned to the Hospital six

months after the operation in excellent health, the disease having apparently received a decided check. It is, of course, only too well known that a result so fortunate seldom occurs, the patient's fate being apparently only accelerated by operative interference; but the fact of such being frequently the result ought not to deter from operation, in all cases, where the skin or lymphatic glands, or both, are affected, but ought rather to necessitate a nice and careful discrimination between cases which are suitable and those which are unsuitable for operation when the skin and glands are affected. The age of the patient, the state of the general health, the presence or absence of disease in other organs, the possibility or impossibility of removing entirely the diseased organ, together with the affected glands, are in such cases the chief indications to be attended to in deciding as to operative interference. Although, of course, it would be most reprehensible surgery to operate in such cases simply to gratify the patient's desire, still the degree of his anxiety is often of service in enabling the surgeon to decide as to the treatment which he should adopt when other things are so closely balanced as to leave him in doubt as to whether he should operate or not. In all such cases, however, the patient ought to be fully acquainted with the risks of operation, and the probability of the return of the disease. In Case 14 two large clusters of diseased glands were removed from the axilla without the slightest inconvenience of any kind resulting. It is still an open question as to what extent one might safely remove lymphatic glands. Questions not easily answerable might be suggested as to the conduct of the distal lymphatics after the removal of the gland. It is not improbable, however, that a cancerous gland is of but little service in carrying on the lymphatic flow. At any rate it is, in the case of the axillary glands, *e.g.*, a centre of disease far more dangerous than the original site, and, consequently, its removal is clearly indicated. This is probably only true of glands very decidedly enlarged and hard, for there is every reason to believe that glands but slightly enlarged in the neighbourhood of a cancerous growth are not cancerous at all, but are enlarged simply as a result of irritation, as often occurs in the case of glands in the neighbourhood of innocent growths, when they become very active, or the seat of irritation, as apparently took place in Case 6. That simple irritation may bring this about is sufficiently shown by the occurrence of enlargement of the lymphatic glands in connexion with a limb the seat of erysipelas, or sometimes even of simple ulceration.

Hernia.

1. J. J., æt. 26. Oblique inguinal hernia, strangulated for four hours; extraperitoneal division of stricture. Recovery.

2. Jas. B., æt. 60. Oblique inguinal hernia, strangulated for ten hours. Operation. Sac opened. Recovery.

3. John M., æt. 54. Oblique inguinal hernia, strangulated for

thirty-six hours. Operation. Intestine in a state of slough. Death from collapse, ten hours after operation.

4. H. L., æt. 61. Oblique inguinal hernia about the size of a man's head, strangulated for forty-one hours. Patient in a state of collapse. Operation. Sloughing intestine. Death four hours after the operation.

5. B. P., female, æt. 45. Femoral hernia, strangulated for fifteen hours. Operation. Sac opened. Peritonitis. Death five days after operation.

6. Eliza B., æt. 63. Femoral hernia, strangulated for twelve hours. Operation. Sac opened. Recovery.

The above cases call for no special remark; and Mr Spence's views on the subject of hernia have been so fully given in former reports that it is unnecessary to particularly allude to them in this.

Genito-Urinary Cases.

Stricture of the Urethra.

Some of the following cases of stricture will be found interesting, on account of the treatment adopted.

1. J. C., æt. 54, seaman. Simple organic stricture, of six years' duration, which had been repeatedly treated by slow dilatation. On admission, a No. 2 catheter could be passed, and on the fourth day a No. 3 was passed without exciting undue irritation. He was ordered to take half a drachm of acetate of potash, and fifteen minims of tincture of henbane, thrice a-day. On the sixth day the stricture was split with the aid of Holt's instrument, and a full sized catheter passed immediately afterwards, and the urine drawn off. An opiate suppository was introduced into the rectum, five grains of quinine ordered to be taken thrice daily for the first three days after the operation. No rigors followed; the urine was regularly drawn off by catheter for the first forty-eight hours after the operation. He was instructed in the use of the catheter, and discharged on the ninth day after the operation.

2. Peter B., æt. 34, soldier. Simple organic stricture, of ten years' duration; was twice treated in a military hospital, by gradual dilatation, on the last occasion for a period of seven months. On admission he was suffering from complete retention, resulting from exposure to cold and wet, and intemperance. He was placed in a warm-bath where he voided urine without the aid of a catheter. Hyoscyamus and potash were given, and next day a No. 3 catheter was passed, and he was ordered to take a grain of quinine thrice daily, in addition to the previous mixture. The urine was ascertained to be healthy. On the eighth day after admission the stricture was split with the aid of Holt's instrument. The dose of quinine was increased to five grains thrice daily, but was discontinued on the third day after the operation, when the occurrence of rigors was not further to be apprehended. He was not allowed to

micturate without the use of a catheter for forty-eight hours after the operation. A slight rigor followed the operation, which was easily checked by a little brandy and hot water, and never afterwards recurred. He was instructed in the use of the catheter, and dismissed on the ninth day after the operation. Shortly after leaving the hospital he resumed his intemperate habits, and was frequently under the necessity of sleeping in open fields by night. An acute attack of orchitis ensued, which compelled him to return to the hospital six weeks after his previous dismissal; he had never had an instrument passed, and it was consequently expected that the stricture would have returned to some extent. Such was not the case, however, for a No. 11 bougie could be passed without difficulty. Rest in bed, hot fomentations, attention to the state of the bowels, soon cured the orchitis, and he was discharged a fortnight after his admission.

3. W. C., æt. 29, spirit-dealer. Simple organic stricture, of seven years' duration, barely admitting a No. 3 catheter. Dilated with Holt's instrument. Catheter used for forty-eight hours afterwards. No rigors. Discharged cured on seventh day after operation.

4. J. D., æt. 41, skinner. Simple organic stricture, of sixteen months' duration, easily admitting a No. 3 catheter. Dilated with Holt's instrument. No rigors. Recovery. Discharged on ninth day after operation. Returned a month afterwards to have an instrument passed; the calibre of the urethra was found to have diminished from that of a No. 11 to that of a No. 10 bougie.

5. W. G., æt. 40, labourer. Cartilaginous stricture, with perineal abscess, followed by fistula. Patient had suffered from stricture—resulting from gonorrhœa—for eight years. Six years previous to the date of his present admission he had had it slowly dilated by the use of bougies to the size of a No. 8, since then it had gradually become tighter, and admitted with difficulty a No. 3.

There was a small abscess behind the scrotum, which, on being opened, was not found to contain urine, but on the following day a few drops of urine passed through the wound during micturition. The urine was ascertained to be free from the presence of albumen. He was ordered to take a grain of quinine thrice daily; and on the seventh day the stricture, being then found to admit a No. 3 catheter easily, was split with Holt's instrument,—considerable difficulty was experienced in doing so, owing to the denseness of the tissue composing the stricture. A severe rigor followed the operation, but did not afterwards recur. The fistula rapidly healed after the dilation of the stricture, and he was discharged cured on the twenty-third day after the operation.

6. A. O., æt. 38, labourer. Simple organic stricture, of seventeen years' duration, admitting a No. 4 catheter with difficulty; had on two occasions been subjected to gradual dilatation. Split with Holt's instrument. No rigors. On the third day after the opera-

tion, was seized with orchitis of the left testicle, which soon, however, subsided on the diligent application of hot fomentations. Discharged cured on the nineteenth day after the operation.

7. A. D., æt. 33, porter. Congestive organic stricture, of four years' duration. He came to the hospital suffering from complete retention. An attempt to pass an instrument failed, and produced pretty copious hæmorrhage. An opiate suppository was introduced into the rectum, and he was placed in a warm bath, in which he micturated, unaided. On the following day, a No. 3 catheter could just be passed; he was ordered tincture of hyoscyamus and acetate of potash, and, five days afterwards, Holt's instrument was used successfully, the stricture being dilated to No. 10. No untoward symptoms followed, and he was discharged on the tenth day after the operation.

8. A. B., æt. 42. Cartilaginous stricture, of eight years' duration. He had been in the Infirmary on two occasions; one of these extended over four months, during which gradual dilatation was being employed. Every attempt to dilate it above a No. 9 bougie had always been followed by excessive irritation. It was dilated by Holt's instrument to the size of No. 9, and he was discharged cured on the ninth day after operation.

9. J. C., æt. 42. Organic stricture, with renal disease. Patient had suffered from stricture for six years, resulting from gonorrhœa. He had for many years led a most intemperate life. The urine was found to contain a little albumen, no tube-casts were, however, detectable; he had no lumbar pain, nor swelling of the eyelids, over the sacrum, or of the limbs; in short, no other symptom of renal disease, except the trace of albumen in the urine, which was not considered a sufficient contra-indication for the performance of the operation, and the less so, seeing that no history of any renal attack could be ascertained. As his nervous system had suffered severely from his intemperate habits, it was deemed prudent to proceed with caution; he was therefore ordered to take a grain of quinine thrice daily, a beef-steak, and strong beef-tea daily for dinner. On the tenth day after admission, the stricture was split. No rigor followed; the dose of quinine was increased to five grains as usual; and he was cautioned not to attempt to pass urine without the use of an instrument. Notwithstanding the injunction, he attempted to micturate a couple of hours after the operation. During the passage of about an ounce of urine he shivered violently, and nearly fainted. He was immediately placed in bed and surrounded with hot-water bottles, and brandy and hot water given. He partially recovered, until when, three hours afterwards, yielding to his urgent desire, a catheter (No. 8) was passed, and about an ounce and a-half of urine withdrawn; notwithstanding the gentleness with which the instrument was used, and the ease with which it was passed, he shivered violently, and vomited a considerable quantity of greenish fluid. Gin-toddy

was plentifully given, and a lighted spirit-lamp was placed below the bedclothes in order to induce diaphoresis, and prevent the recurrence of the rigor. In the evening he again shivered violently, and afterwards became delirious for some hours. Complete suppression of urine followed, and notwithstanding the diligent use of diuretics, administered by the mouth and endermically, of vapour and hot-water baths, death ensued on the evening of the day following the operation.

Autopsy.—Both kidneys were found to be affected with chronic interstitial nephritis, and riddled with cysts. The bladder was small and contracted, containing only about an ounce of urine. The stricture was about an inch in breadth, and situated about an inch and a-half from the point of the penis. The mucous membrane of the urethra was only torn at the strictured part, and there it was finely fenestrated, and not torn in any special direction. The tissue of which the stricture consisted was also torn in the same fenestrated manner, and the laceration did not extend beyond the stricture in any direction. No urinary infiltration had occurred.

10. G. G., æt. 45, iron-worker. Simple organic stricture, of seven years' duration. On six different occasions he had had it gradually dilated to the size of a No. 8 bougie. The stricture was split to the size of a No. 8. Severe rigors followed the operation, but never recurred, and he was discharged cured on the twelfth day after the operation.

11. J. T., æt. 30. Simple organic stricture, of four years' duration, barely admitting a No. 4. Split with Holt's instrument. Discharged cured on fifth day after operation.

12. G. B., æt. 22, sailor. Traumatic stricture, of two months' duration. He had fallen astride the edge of a boat from a height of forty feet. The perineum was not ruptured, but on passing water shortly after the accident, he experienced excessive pain and scalding, and the urine was mingled with blood; no infiltration ensued, and he soon recovered from the accident, but observed that the stream of urine became less and less until his admission into hospital, when it barely admitted a No. 3 catheter. He was otherwise in perfect health. Holt's instrument was immediately used. A No. 10 catheter was passed immediately after the operation, to ascertain that the stricture was thoroughly dilated, but he was afterwards allowed to micturate without the use of an instrument. On the evening of the second day, he had a slight rigor. On the fourth day, considerable swelling of the penis showed itself: it was then suspected that the rigor on the second day had ushered in the occurrence of urinary infiltration, which had since then been slowly occurring. Free incisions were made into the subcutaneous tissue of the penis, and a catheter was afterwards regularly used to remove the urine from the bladder. Infiltration, slight in extent, also took place into the scrotum, a portion of which sloughed. Although his

progress was tedious, he completely recovered, and was dismissed six weeks after the operation. The urethra was kept from contracting by the occasional passage of a No. 10 bougie. He presented himself at the clinique a month after his dismissal; a No. 10 could then be passed easily.

13. A. B., æt. 55, tailor. Simple organic stricture, treated by the use of bougies. Prostatitis. Suppression of urine. Death. The patient had suffered from stricture for six years; during four years the stream of urine had been very small, and he had frequently had complete retention of urine; two years before admission, the stricture had been gradually dilated to the size of a No. 7, but afterwards gradually contracted; and, on admission, a No. 2 catheter could just be passed. His health was very indifferent, having suffered severely from many years of intemperance. Four years ago, he had had an attack apparently of nephritis; at the date of admission, however, the urine was free from the presence of albumen. Nos. 3, 4, and 5 were successively introduced at intervals of four days. No untoward symptom followed the employment of the former two, but prostatitis followed the use of No. 5. He was repeatedly placed in warm baths; poppy fomentations were applied to the perineum and hypogastrium; tincture of hyoscyamus and alkalies administered internally. No improvement followed the employment of these measures; suppression of urine supervened, and death speedily ensued. A post-mortem examination could not be obtained.

In addition to the above case, there were several others treated by gradual dilatation in the earlier period of the session, all of which terminated satisfactorily; none of them presented any feature worthy of record.

Perineal Section.

14. J. B., æt. 30, sailor. Irritable stricture, with perineal abscess. Perineal section. Patient not dismissed until the end of the eleventh week, owing to the extreme slowness with which the perineal fistula, resulting from the wound, healed.

15. W. G., æt. 32. Irritable stricture, of eight years' duration. Complete retention of urine. Perineal section. Discharged cured at the end of the eighth week.

16. J. M., æt. 50, tailor. Irritable stricture, of four years' duration. Urinary abscess in perineum. Perineal section. Rigors on day following operation. Suppression of urine. Death. A sectio could not be obtained.

17. H. C., æt. 50. Stricture and infiltration of urine. Patient had suffered from stricture for ten years. For a week previous to admission he had felt a hard swelling in the perineum. On examination, the perineum and scrotum were found hard and infiltrated, and there were several bluish spots on the dorsum of the penis. He was immediately placed on the operating table, and a free

incision made through the râphé of the perineum into a collection of pus and urine; the stricture was divided on a grooved staff, and several incisions were made into the infiltrated tissue of the penis. A catheter was as usual passed from the perineum into the bladder, and tied in. Stimulants, etc., were freely given, but he sank on the fifth day after the operation.

The rupture of the urethra was found to have occurred in the membranous portion; the anterior half of the triangular ligament was ulcerated at its base, thereby allowing the escape of the urine anteriorly.

Remarks.—The above cases of stricture illustrate—as far as three methods of treatment are concerned—what is unfortunately true of every radical method of treating stricture hitherto proposed, viz., the liability of all to be followed by consequences not less disastrous than the death of the patient. That a new method of treatment should occasionally be followed by the same result, ought not therefore to be considered an insuperable objection, if the operation is not more fatal than the others, and is moreover possessed of several advantages which render it preferable. Moreover, that Holt's method of treating stricture does not effect a "radical cure" is equally true of every other radical treatment of stricture hitherto proposed.

The method of treating stricture proposed by Holt is applicable to all cases where gradual dilatation by bougies has hitherto been recommended, and also to some cases where perineal section has been advised. Over the treatment by bougies it possesses the advantage—important to most patients, but especially so to those met with in hospital practice—of requiring, in ordinary cases, a comparatively short time for its successful completion; and further, although the morbid tendency to the formation of stricture is, in most cases, not removed, the stricture is much less liable to return than where gradual dilatation has been adopted.

With perineal section, Holt's operation cannot be properly compared, for the former will probably never be superseded by the latter,—at any rate, in the treatment of irritable stricture, and most cases of stricture complicated with perineal abscess or fistulæ. That, however, a case of stricture with perineal abscess and subsequent fistulæ, may be successfully treated by Holt's method, Case 5 affords sufficient proof; and, further, the same case and Case 8 show that a dense cartilaginous stricture—and Case 12, that a pretty tight traumatic stricture—may be satisfactorily treated in the same manner. Probably, resilient strictures will be found amenable to the same treatment.

With internal urethrotomy, Holt's operation may be favourably compared: here again, however, the comparison is not quite fair, for death has most frequently followed urethrotomy, in cases of irritable stricture, where, had Holt's operation been performed, not

improbably, a higher rate of mortality would have resulted. Internal urethrotomy, as may be performed by Maisonneuve's most ingenious urethrotome, has not been so generally adopted by the surgeons of this country as the merits of the operation would appear to indicate. In France, although its good effects have frequently been less permanent, it has much more seldom been followed by fatal results than perineal section. In the case of ordinary organic stricture, it possesses no advantage over Holt's operation, and, indeed, is not so safe; but for irritable stricture it seems, judging from present experience, to be preferable to perineal section. In internal urethrotomy, the great difficulty has hitherto been, to obtain an instrument which will divide the strictured portion of the urethra, and nothing more; and, moreover, one which can be used in tight strictures. Maisonneuve's instrument, which is far superior to Civiale's, admirably fulfils these indications.

It may, perhaps, be of service to give a short résumé of the treatment generally adopted in the above cases where Holt's operation was performed. If the stricture did not readily admit a No. 3 bougie, it was necessary to dilate it gradually by the passage of bougies until that size could be easily passed. The patient was directed not to pass his water on the morning before the operation, in order that, after the passage of Holt's instrument, satisfactory proof of its being in the bladder might be obtained by the flow of urine through the fine catheter contained in the instrument. This valuable precaution was on no occasion neglected; indeed, so strongly did Mr Spence insist upon its being attended to, that in one case, where the bladder had unfortunately been emptied just before the time for operation, he, although almost positive that the instrument was in the bladder, postponed the operation until urine accumulated in the bladder. The full-sized dilator was most frequently used, but the calibre of the urethra was always previously measured, in order that it might not be dilated beyond its normal size. The operation was usually performed in bed, as rigors were in that case less liable to supervene.

Immediately after the operation, a catheter of the same size as that to which the urethra had been dilated was passed, and the urine drawn off, thereby proving the complete division of the structure. After the operation, the safe precaution of not allowing the patient to micturate unless with the aid of a catheter, was adopted in all, excepting Case 12,—(which, although placed for convenience in this report as the 12th Case, was in reality among the first operated upon.) Possibly had this patient been prevented from passing urine over the recently torn surface, the subsequent infiltration of urine might not have occurred. It would not, however, be fair to conclude, that, because infiltration had followed the non-employment of a catheter for two days after the operation in this case of *traumatic* stricture, it would also be liable to supervene after operation in cases of *organic* stricture; for, in the latter, the

laceration of tissue is confined to the mucous membrane and the submucous strictural tissue; whereas, in a traumatic stricture, the stricture has usually no such definition, and it is, consequently, impossible to say how far the laceration produced by forcible dilatation may extend: it is, however, even in cases of organic stricture, a safe precaution, and one most acceptable to the patient, for the careful passage of a moderate-sized instrument is much less painful than the contact of urine with the raw surface. In Case 9, the passage of the urine through the torn urethra gave rise to rigors, fainting, and far greater pain than the operation itself did.

After the first two days, a full-sized instrument was occasionally passed to prevent recurrence of the stricture, and the patients were instructed how to pass an instrument, and enjoined to do so, or to have it done, once a-month or so.

With regard to the internal treatment, the patient was prepared for the operation by having his bowels moved, if necessary, by a small dose of castor oil,—by rest in bed, diluents, hyoscyamus, and alkalies, if there was any tendency to irritation in the urethra. A grain of quinine thrice daily, with abundance of nourishing diet, was given if the patient's general health was below par; immediately after the operation, a third of a grain of muriate of morphia in a suppository was introduced into the rectum, and five grains of quinine given thrice daily during the first three days, in order to check the tendency to the occurrence of rigors. Mr Spence has found this small dose prove quite as efficacious as the much larger dose recommended by Mr Holt. When rigors occurred, brandy toddy and other hot drinks were given, and hot-water bottles were placed round the patient.

The unfortunate result in Case 9 must be regarded as an accident which would probably have occurred had any other radical treatment been adopted, and one which every precaution was taken to prevent. The only evidence of renal disease was the small quantity of albumen in the urine, which could not have been regarded as indicative of anything very serious, seeing that the history of the case did not yield any decided indication of there having been a renal attack.

Lithotomy.

1. James J., æt. 4. Weak and emaciated; had suffered from symptoms of calculus for two years. Lateral operation; removal of two pretty large calculi. Sank from exhaustion on the day following.

2. Hugh A., æt. 16. Had suffered from symptoms of stone in the bladder since childhood. Was always of very delicate constitution, and when admitted was, moreover, just convalescent from an attack of small-pox. He was treated with tonics and the most nourishing diet, and after three weeks, the lateral operation was performed, and a calculus two inches in diameter extracted. Recovery.

3. D. B., æt. 67. Symptoms of vesical calculus for six years. Lateral operation; calculus size of walnut. He progressed most favourably until the tenth day after operation, when, unfortunately, a relative brought him a basket of green gooseberries, of which, without the cognizance of the nurse, he partook largely. Vomiting and diarrhœa followed, ushering in unmistakable symptoms of pyæmia, from which he died on the twenty-first day after operation.

Fractures.

Pelvis—Simple.

J. M., admitted Dec. 3. Cured Jan. 21.
D. C., admitted Dec. 24. Cured Jan. 27.

Pelvis—Compound.

J. M'C., admitted Nov. 17. Died Nov. 19.

Femur—Simple.

J. S., admitted Feb. 11. Cured April 17.
W. K., admitted Aug. 10. Cured Oct. 4.
M. N., admitted Jan. 1. Cured Feb. 23. (Extra-capsular fracture of neck.)
L. B. (æt. 60), admitted July 28. Cured Sept. 3. (Intra-capsular fracture of neck.)
J. B. (æt. 68), admitted April 21. Died June 11. (Intra-capsular fracture of neck.)

Femur—Compound.

E. R., admitted Sept. 8. Died Sept. 19. (Primary amputation at hip.)

Patella.

A. H., admitted July 7. Cured Aug. 28.
J. R., admitted Aug. 23. Cured Oct. 5.

Both Bones of Leg—Simple.

J. C., admitted Oct. 22. Cured Nov. 29.
A. F., admitted June 23. Cured Aug. 13.
M. S., admitted Aug. 25. Cured Oct. 4.
W. L., admitted Nov. 12. Cured Jan. 12.
H. C., admitted Dec. 2. Cured Jan. 8.
J. R., admitted Jan. 19. Cured March 1.
T. F., admitted Feb. 23. Cured April 5.
W. S., admitted March 1. Cured March 30.
P. M., admitted April 19. Cured May 31.
M. C., admitted Aug. 15. Cured Oct. 2.

Both Bones of Leg—Comminuted.

M. M., admitted Aug. 20. Cured Nov. 4.
H. M., admitted Oct. 15. Cured Nov. 23.
W. H., admitted Nov. 26. Cured March 2.
R. S., admitted Jan. 4. Cured Jan. 27.
W. H., admitted July 26. Cured Sept. 16.

Both Bones— Compound.

H. O., admitted Oct. 20. Cured Dec. 22.

Tibia—Simple.

G. G., admitted Aug. 18. Cured Sept. 30.
B. G., admitted Sept. 10. Cured Oct. 29.
J. W., admitted Jan. 26. Cured March 7.
D. J., admitted March 26. Cured May 6.
T. N., admitted Aug. 4. Cured Aug. 30.
J. P., admitted July 21. Cured Sept. 7. (Fracture of malleolus, with dislocation of foot backwards.)

Fibula—Simple.

E. M., admitted Oct. 13. Cured Dec. 9.
B. M., admitted Aug. 23. Cured Sept. 14.
D. M., admitted Aug. 13. Cured Sept. 10.
J. W., admitted Sept. 10. Cured Oct. 29.
M. D., admitted Sept. 24. Cured Oct. 29.
D. K., admitted Sept. 29. Cured Nov. 13.
J. K., admitted Oct. 29. Cured Nov. 10.
W. L., admitted Jan. 3. Cured Feb. 5.
W. M., admitted April 14. Cured May 16.
A. M., admitted June 9. Cured Aug. 18. } (Pott's fracture.)
J. C., admitted Aug. 14. Cured Sept. 26.

Foot—Compound.

R. F., admitted May 24. Cured June 30. (Amputation.)
R. K., admitted April 13. Cured May 31. (Amputation.)

Ribs.

A. D., admitted Jan. 5. Cured Jan. 25.
J. D., admitted July 21. Died July 25. (Pleurisy.)
C. F., admitted Dec. 24. Died Dec. 30. (Pleurisy and emphysema.)
A. P., admitted April 22. Cured May 4.
J. P., admitted July 7. Cured July 24. (Emphysema.)
W. M., admitted July 20. Cured Aug. 17. (Pleuro-pneumonia.)
G. D., admitted Sept. 1. Cured Sept. 18. (Emphysema.)

Miscellaneous Cases of Fracture.

M. H.—Fracture of fibula, with compound dislocation of ankle. Amputation; pyæmia. Death.

N. M.—Fracture of radius, tibia, and fibula. Cured.

J. C.—Compound comminuted fracture of humerus, fracture of ribs, and femur, incurred two days previous to admission. On admission, he was in a most exhausted condition. Pulse, 126; tongue dry; amputation was, in consequence, contra-indicated. Died on the fifth day after the accident.

J. P., æt. 45. Admitted Aug. 21. Comminuted fracture of tibia and fibula. On October 7, Mr Spence, finding that the fragments had not united with sufficient firmness, irritated the fibrous medium uniting the bones, and the osseous extremities by means of a sharp needle; firm osseous union resulted. Dismissed December 15.

Nearly all the cases of fracture of the upper extremity were as usual treated as out-door patients, without the occurrence of a single unsatisfactory result.

Remarks.—The apparatus used by Mr Spence in the treatment of fractures is of the simplest description: the long splint for fractured thigh; the Macintyre splint for comminuted or splintered fracture of the leg, with great tendency to displacement; Dupuytren's splint, and Gooch's splint; but the splint most generally employed consists of two pieces of pasteboard, accurately shaped and moulded to fit the limb. These are separated from the skin by abundance of cotton wadding, and are secured by two or three looped bandages, which can be easily tightened or loosened without disturbing the fracture. This arrangement is a most admirable one, and is followed by as successful results as plaster of Paris, so extensively employed by Berlin surgeons, or starch and dextrin, so much used in Paris and London, without being subject to the disadvantages which result from not being able to examine the state of the limb from time to time, to see that no undue pressure is being exercised on any part, or that abscess is not forming; moreover, the disturbance of the fracture, and difficulty attendant upon the removal of a thick and firm casing, are not encountered; farther, the results which this method of treatment yields are, as regards straight limbs and united fractures, nearly all that could be desired. Those patients with broken legs must, of course, remain in their beds, and not walk about until they are mended, as they are often allowed to do by those who use dextrin and starch, but they have the advantage of the greater certainty of a successful result.

When a fracture of the leg or thigh has thoroughly united, narrow lateral splints of pasteboard and a starch bandage are applied, and the patient is allowed to leave his bed.

There were several cases of dislocation of the shoulder and elbow, none of which, however, presented any feature worthy of note.

Wounds of the Throat.

W. N., æt. 45. Suicidal wound across the throat, just below the pomum Adami, dividing only the superficial textures and a few small vessels, which were ligatured, and the edges of the wound brought together by silver suture, leaving, however, a small space open in the centre. Recovery.

M. C., æt. 22. Endeavoured to commit suicide with a penknife. There was a punctured wound over the crico-thyroid membrane, leading into the cavity of the larynx. Emphysema had resulted, which was speedily relieved by simply enlarging the cutaneous wound. No tube was used. Recovery.

Miscellaneous Cases.

Ischio-rectal Abscess.

Alex. W., æt. 54. Had suffered from hæmorrhoids for many

years. A month before admission, he had sat for some time upon a cold stone, and ischio-rectal abscess resulted, which unfortunately had never been opened, although he was frequently visited by his medical attendant. Mr Spence opened the abscess, which was filled with fetid pus and necrosed tissues, and had literally dissected the lower part of the rectum. A large sloughing external pile was also removed. The patient was, when admitted, in an excessively feeble state, from which he never rallied, and sank three weeks after admission.

Retention of Urine from accumulated Menstrual Discharge.

J. T., æt 16, was admitted suffering from complete retention of urine. After the urine had been drawn off, the hymen was discovered to be unruptured, and distended by a fluid which appeared blue through the white membrane. A crucial incision was made through the distended membrane, and about two pints of fetid menstrual discharge evacuated. Tepid water, containing a little Condy's fluid, was injected twice a-day until all fœtor was removed. No further retention of urine occurred.

Scald followed by Tetanus.

John H., æt. 25. Four weeks before the supervention of the tetanus the whole of his left arm had been scalded with boiling oil; the scalded surface had almost entirely healed when he discovered, one morning at breakfast, that his lower jaw was stiff, and that he could not open it as widely as usual. He was ordered a pill containing one drop of croton oil and five grains of aloes. It operated freely, but as the stiffness only increased, and he, in addition, began to complain of a pain in his back, he was admitted into the Infirmary. He was placed in bed and surrounded by hot bottles, dry cupping was performed over the spine, and twenty-five drops of tincture of Indian hemp administered every two hours. On the following day, 25th December, pulse 108. Stiffness of jaws unabated; abdominal muscles rigid; to be rubbed with chloroform liniment.

26*th.*—Pulse 100; complains of difficulty in making water. Ordered sweet spirits of nitre.

28*th.*—Pulse 98. Greater mobility of the lower jaw; abdominal muscles less rigid; difficulty in micturition disappeared, tincture of Indian hemp continued.

29*th.*—Dry cupping again employed. No further improvement.

31*st.*—*In statu quo.* Chloroform liniment and tincture of Indian hemp continued.

3*d January.*—Blister applied to abdomen. Ulcer resulting from burn completely healed.

4*th.*—A little improvement; tinct. cannabis ind. stopped.

11*th.*—Has been gradually improving since last date. No internal

medicine has been given; the rigid muscles have been fomented with hot water, and rubbed with chloroform liniment.

19*th.*—Completely recovered.

The occurrence of the tetanus just before the wound had finally healed was remarkable, but not altogether unusual. None of the remedial measures resorted to seemed to be followed by any marked benefit. Improvement began after the wound caused by the burn had healed, and it is probable that there was some connexion between the two circumstances.

Chronic Abscess of the Abdominal Wall above Poupart's Ligament.

Arthur T., æt. 42, fisherman. Two years before admission, had "strained himself" while lifting a heavy stone. Shortly afterwards a swelling began to appear over the left external abdominal ring, which gradually increased in size until, on admission, it was as large as two fists. The swelling never was painful, but ever since the accident he had constant pain over the left posterior superior iliac spine, and down the back of the left thigh. There was a smooth, painless, colourless, fluctuating swelling of the size above indicated, extending, above the line of Poupart's ligament, from the external abdominal ring to the anterior superior iliac spine. The dimensions of the swelling had always been gradually though very slowly increasing, and were not subject to occasional diminution or increase. The swelling did not apparently communicate with any internal channel, for it received no impulse on the patient's coughing, was not diminished by pressure either constant or manipulatory; there was no pulsatory impulse, no bruit, no borborygmi. On percussion it was invariably dull; there was no projection of any of the vertebræ nor pain on pressure over them. The diagnosis Mr Spence arrived at before making any direct exploration was, that it was a cyst or an abscess, and if the latter, that it was superficial, although the persistent pain over the posterior iliac spine and down the back of the thigh seemed to indicate a deeper seat. An exploratory trocar and canula were introduced into the tumour, and its contents were found to be curdy pus. An incision, two inches in extent, was made in a dependent part of the swelling, and sixteen ounces of pus evacuated. The cavity, which was found to be quite superficial, was lightly brushed over with tincture of iodine, and a compress secured by a bandage placed over it. Steel drops, wine, and nourishing diet were administered. The cavity of the abscess was occasionally painted with iodine and healed slowly. The progress of the case was considerably retarded by the supervention of a rather obstinate attack of diarrhœa, which, however, ultimately yielded to treatment. Recovered.

The above case was evidently one of chronic abscess, originating either in or around the inguinal lymphatic glands, and is of service

in showing with what caution the diagnosis of tumours in the inguinal region ought to be effected, and the difficulty which may attend it.

Cyst behind the Bladder.

J. W., æt. 29. Had experienced some difficulty in micturition for some months previous to admission, but never amounting to complete retention until two days previous. Complete inability to micturate came on somewhat rapidly after his having been exposed to cold and wet. He was seen by a medical gentleman, who passed a catheter and emptied the bladder; but on the following day he failed to get anything but blood through the instrument. When brought to the Infirmary the patient was in great agony from the accumulation of urine. Mr Spence had considerable difficulty in passing a catheter, owing to the previous formation of a false passage; but on his finally succeeding, and drawing off the urine from the bladder, he found that there still remained a considerable swelling in the hypogastric region. On examining per rectum he detected a fluctuating swelling behind the prostate, which he at once pronounced to be cystic, and proposed to puncture it when the urine had re-accumulated in the bladder. There was no stricture of the urethra, but the tilting forwards of the prostate by the swelling behind had evidently given rise to the difficulty in passing an instrument, and had rendered easy the formation of a false passage in the lower part of the prostate. In the evening, Mr Spence punctured the cyst per rectum, and drew off twelve ounces of a pale, slightly albuminous fluid; immediately thereafter the patient micturated without assistance, and the swelling and dulness on percussion disappeared from the hypogastrium. Prostatitis, cystitis, and afterwards inflammation of the post-vesical cyst, supervened; the latter was at the end of a fortnight again punctured, and a large quantity of purulent fluid evacuated; the canula was left in to act as a drainage tube, but happening to become displaced had to be withdrawn, and, of course, could not again be passed until the fluid re-accumulated. Sedatives and diluents were frequently administered. Hot hip-baths were repeatedly used, and poultices or hot fomentations continually applied to the hypogastrium. Hectic. Death.

At the autopsy there were found,—a suppurating cavity behind the bladder, with well-defined, rather thin walls, containing a few ounces of purulent fluid; great enlargement of the prostate, with a suppurating cavity communicating with the floor of the urethra; inflammation of the bladder, with several patches of diphtheritic exudation on its mucous surface; catarrhal nephritis.

The above instance of this rare affection is the second which Mr Spence has met with in his practice. The fatal result must, unfortunately, be attributed to the false passage in the prostate and distention of the bladder, giving rise to general inflammation of the

urinary organs, and apparently to suppuration of the cyst: for it is probable that had the urinary organs been in a quiescent state, simple puncture of the cyst would not have induced suppuration; and had it done so, the chances of a favourable result would, notwithstanding, have been infinitely greater than they otherwise were.

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