

dilute sulphuric acid containing a small quantity of nitric acid, acts upon zinc and an arsenical compound.

From the above experiments, we can legitimately deduce the following conclusions:—

1stly, When the acid used in Marsh's process contains a very small quantity of nitric acid, mirrors of metallic arsenic are obtained from extremely minute quantities of arsenic added to the apparatus; in other words, a trace of nitric acid present in the sulphuric acid in Marsh's process does not perceptibly interfere with the formation of mirrors of metallic arsenic.

2dly, When the acid used in Marsh's process contains a considerable percentage of nitric acid, the formation of mirrors is checked; the extent to which this occurs depending upon—(a) the proportion of nitric acid present in the sulphuric acid, (b) the quantity of arsenic present in the apparatus.

3dly, That under these circumstances the addition of an organic fluid to the apparatus does not promote the formation of mirrors.

4thly, That when nitric acid prevents the formation of mirrors of metallic arsenic in Marsh's process, it does not check the evolution of arseniuretted hydrogen, but prevents its being decomposed by heat into arsenic and hydrogen, by causing its oxidation; a ring of crystals of arsenious acid being, under these circumstances, formed inside the tube.

UNIVERSITY OF EDINBURGH, October 1864.

ARTICLE VI.—*Case of Popliteal Aneurism, a second time treated successfully by Compression.* By A. P. LOCKWOOD, Surgeon-Major, 2d Dragoons.

IN the number of this Journal for December 1861, I recorded the case of Sergeant May, where compression proved successful in producing the cure of a popliteal aneurism in the left leg. The disease, as will be seen by the following notes, returned in the vessel, but at a somewhat higher point, and again compression proved successful.

28th June 1863.—Since November 1861, when this man was discharged from hospital, after having been three months under treatment, he has been in tolerably good health; has never ridden since that period, but has done his duties, which have been chiefly of a sedentary nature. States that about an hour after he got into bed last night he felt a throbbing sensation in the left popliteal space, which was shortly after followed by swelling of the knee, accompanied with great pain. When seen at 10:30 A.M. the circumference of the left knee was 16 $\frac{3}{4}$ inches (the right being 14 in the same position); the leg below the knee was slightly swollen, but the swelling did not extend upwards; there was considerable heat in the parts, and pressure caused pain. Pulse 80, not strong;

tongue furred; tendency in the system to hyperæmia; limb was semiflexed, and any attempt to extend it caused pain; habits temperate; has not been exerting himself violently in any way of late. The old seat of aneurism in the popliteal space has a hard whipcord-like feeling; swelling prominent on each side of patella, chiefly over internal abductors; bruit distinctly heard over this region, pulsation also very distinctly felt here; the bruit less audible along the course of the artery upwards. He was ordered a purge, and an evaporating lotion with ice was directed to be applied to the knee.

Vesper.—Bowels well acted on; has taken no nourishment to-day; feels very weak from purgation and want of sleep; to have a little weak brandy and water. Refrigerant lotion to be continued.

29th.—Passed a restless night; limb, especially the knee, painful; circumference of parts increased $\frac{1}{4}$ th of an inch; pulsation and bruit as before, not perceptible in the ham. It would appear that there is lesion of the coats of the vessels at some point above the original seat of aneurism, most likely at the lower part of abductor canal.

Director-general written to for Cartes' compressors, as their use was attended with success on the former occasion.

The patient was seen by Mr Pemberton, an eminent civilian surgeon, who kindly gave the loan of Weiss's double padded compressor. This instrument was applied at 6 P.M., the point of pressure being at the femoral trunk in Scarpa's triangle, relieved by use of other pad two inches lower; this was kept up until 3 A.M., when it could no longer be borne.

Re-applied at 7 A.M.

30th.—Slept a little during the night; states that the pressure caused by this instrument is more painful than that which was caused by Cartes'; bowels moved once this morning; tongue still furred; pulse 84; face rather flushed; pulsation feebly felt on inner side of patella; bruit very indistinct when the pad is on the artery. The position of the limb was altered; the whole leg was elevated; a flannel roller was applied from foot to calf; leg still semiflexed; measurement in altered position, circumference $17\frac{1}{2}$ inches. Iced cloths to be kept to knee.

Vesper.—The limb is hot and red; flow of blood through femoral apparently, but slightly impeded by the use of the instruments; half an inch larger in measurement; apparatus carefully adjusted. Two assistants to relieve each other during the night; and, when pressure of instruments can no longer be borne, to arrest circulation at femoral by digital pressure.

1st July.—Pressure from instruments found insufficient; digital pressure kept up through the whole of last night by means of a relay of men; leg measures $\frac{1}{4}$ th of an inch less; did not sleep more than an hour; looks exhausted. The pelvic apparatus has been applied, and the position of the patient changed; so that it fits better

on the vessel at the arch. Bruit muffled, decidedly less distinct. To continue the pressure as well as it can be borne. Ordered an opiate.

3d.—Passed a very good night; moderate pressure only being kept up at the groin by the instrument; size, $17\frac{1}{4}$; no difference in bruit. Continue iced cloths, etc.

Vesper.—One of Cartes' compressors arrived from Director-general, and was applied at 4 P.M. R. Liq. opii Sed. m. xx. ft. H. S. S.

4th.—Slept at short intervals; looks restless and anxious; bruit very indistinct when instrument is applied; parts becoming sore where pressure has been kept up; appetite keeping tolerably good; measurement, $17\frac{1}{8}$.

5th.—Had m. xx. of Liq. opii Sed. Slept well for five hours; pulse good; is more cheerful; takes his food well; able to bear pressure. No change in state of aneurism. To continue the use of instruments. Circulation in leg good; feet not cold.

7th.—No change in symptoms yesterday. Passed a bad night, but bore the instruments; parts are getting sore and look a little bruised. Pelvic apparatus arrived from Director-general, makers, Whittaker and Blaise. Patient removed to a bedstead with a firm wooden bottom; leg bandaged as far as knee, and elevated; the new instrument, applied at 12 noon, fits well; pressure directed on femoral at groin; bruit at seat of disease scarcely heard. Iced cloths applied to leg.

8th.—Pressure borne continuously during the night.

9th.—Slept well; took anodyne as usual; looks exhausted and weary, but able to take all his food. Functions normal; less bruit heard with the instrument. Continue pressure.

10th.—Passed a restless night, owing partly to sultry state of weather; new instrument been on seventy-two hours. On relieving the pressure, pulsation heard distinctly at sac. Pressure resumed; iced cloths, etc.

11th.—It was thought advisable to relieve the bruised state of the parts by relaxing the screws. This was determined on after a consultation with Mr Pemberton. The limb carefully measured round the knee and thigh, and was found to be 18 inches in both places.

12th.—Passed a very good night; instruments have been kept on, but the pressure has been very light; measurement, $17\frac{1}{2}$ in same places as yesterday; venous congestion has doubtless been relieved; no pain in the sac; no numbness or peculiar feeling in foot or leg; heat about normal; bruit heard as before.

13th.—Had a very good night; took draught as usual; no pain or uneasiness in limb; knee, $17\frac{1}{2}$; thigh, 17; bruit heard apparently in centre of sac.

14th.—Bruit less distinct; leg diminishing in circumference, $\frac{1}{4}$ inch; superficial pulsation alone felt; pressure to be borne slightly at thigh; strips of Emp. saponis applied in a decussating manner

over the sac; calico roller placed smoothly over all; limb semiflexed and elevated at knee, object being to give uniform pressure to the sac to favour consolidation.

21st.—There has been little change in the leg since last report; the parts have been undisturbed; the bandage has become loose, owing to subsiding of swelling; bruit heard indistinctly through strapping.

28th.—The bandage was removed to see what change there was in the state of the limb; no change; bruit still heard; suffers occasionally from epistaxis; bleeding excessive last night; looks exhausted; heart sounds weak, but normal. R Acid gallici, gr. xvij, conf. rosa, q. s.; ft. pil. vj.

29th.—Strapping removed; limb smaller; bruit still heard; no pulsation felt; cantharidine tissue to knee.

31st.—Bandage and strapping re-applied.

4th August.—Bandage removed; limb reduced in size; no pulsation; bandage re-applied; sleeps well without an anodyne; functions regular.

8th.—Bandage removed; limb reduced in size; measures 16½ inches round knee; no pulsation.

12th.—Same state, but above the inside of knee-joint the thigh is somewhat red and painful to the touch. To be fomented.

13th.—Better; less pain on pressure; there is a hard swelling about the size of a hen's egg, the result probably of the prolonged flexion. Foment and poultice.

18th.—The tumour has increased in size, become more prominent and softer; there is no pain; sleeps well; functions regular.

20th.—Similar report continue.

23d.—The tumour is more prominent, and softer; general good health.

27th.—Tumour continues stationary.

31st.—Tumour is more red, and somewhat painful; leg is less flexed; slight epistaxis this morning, which soon ceased.

5th September.—The tumour has gradually increased in size, and become softer; was this morning opened, giving exit to about ℥iv. of healthy pus. Continue catap. lini.

6th.—Passed a good night; slept well. On withdrawing pledget of lint from the wound made yesterday, about two ounces of healthy pus escaped.

7th.—A considerable quantity of thin matter escaped. To be removed to another and larger ward for change.

8th.—Thin discharge decreased; feels stronger, and in better spirits; functions regular.

10th.—Discharge greatly diminished; swelling of knee and leg much decreased.

14th.—General health has improved; very slight discharge of serum from abscess; functions regular.

19th.—Sits up every day from 2 to 6 P. M.; general health im-

proving; the chronic swelling of knee has considerably reduced; there is very slight sanious discharge from abscess.

20th.—Was assisted down stairs to hospital sergent's room and veranda, where he remained some hours.

25th.—Has gained flesh and strength; can extend the limb, and move the knee-joint more freely; abscess still open and discharging a little yellow serum daily. Drove out in a cab for two hours accompanied by the hospital sergent.

26th.—Appearance much improved.

27th.—Was seized with a severe rigor, which lasted from 8 A.M. to 10 A.M. Surface of body quite cold, face very pale, lips blue, pulse 80, small and weak. At 1 P.M. broke out in a profuse perspiration; after which he felt much better, but still very weak.

28th.—Passed a good night; feels much tenderness on pressure over calf of leg. The sheets were changed on 27th, and were very damp.

29th.—There is a considerable increase in the discharge from the abscess this morning, which is of thick purulent matter. Slept well; general appearance improved. Linseed-meal poultice to be applied.

1st October.—Thick purulent discharge still continues; the skin is red and tender on pressure immediately below popliteal space, which is to be fomented.

2d.—Purulent discharge from abscess considerably increased; bowels confined.

3d.—Bowels freely opened; purulent discharge still continues; tenderness on pressure below ham decreased.

9th.—There is a deep-seated fluctuation, with a glistening appearance of the skin on the back of the leg below the knee. A lancet was introduced and some healthy pus escaped.

11th.—No discharge from either of the abscesses this morning. Patient appears to be in good general health. Ol. Murrhuæ, ℥ss., ter in die.

15th.—Has much improved in general healthy appearance during the last few days. There is a very slight discharge of serum from the abscess in the thigh, and none from the one recently opened below the ham.

18th.—General health continues to improve.

20th.—Recommended a pass for fourteen days, to enable him to proceed to a farm-house seven miles distant, for the benefit of his health, which is likely to be much improved by the change. He accordingly went thither on the 23d.

He returned at the expiration of fourteen days very much improved in general health. Abscess healed, and more motion in knee-joint. No pulsation can be felt in the thigh below Poupart's ligament.

Is employed in the sedentary occupation of orderly room clerk.

1st February 1864.—Carefully examined; his general appear-

ance is indicative of robust health. There is no pulsation to be felt below Poupart's ligament, immediately above there is. There is no pulsation in the femoral or popliteal arteries; a small artery can be felt pulsating over the inner surface of the knee-joint. The knee-joint has acquired much more motion, but is still slightly flexed. As there is no disease of the cartilages, the knee will, no doubt, recover free motion as after the first aneurism.

ARTICLE VII.—*On Supporting the Perinæum as a Preventive of Laceration at Childbirth.* By GEO. K. H. PATERSON, L.R.C.P. and S.E., Balbeggie, Perthshire.

IN recording my experience on this subject at present, I am fully aware of the very able and candid opinions, *pro* and *con*, given forth for some time past, by members of the profession in reference to it. However, in my own practice I have invariably acted on the principle of giving support immediately before and at childbirth, during more than twenty years, and have never regretted doing so, but rather am fully convinced that had I not given such support, I should have had a good number of lacerated perinæums to witness and attend to. How the perinæum can undergo less risk of being torn by withholding than by giving support to it previous to and during the expulsion of the head of the infant, I must confess I am as yet unable to understand. It must be allowed that laceration of the perinæum at childbirth is equally to be expected amongst the wives of the Scotch peasantry as anywhere else; and having attended many of these during past years, of stout make, and of ruddy colour, the infants being generally large, it has always appeared to me that due and proper support prevented laceration of the perinæum, even when it seemed most likely to take place; especially where the patient had been left unaided, and when the perinæum had been long stretched, owing to the unyielding and unadapted state of the vaginal appendages and head of the foetus, while the expulsive pains were violent and recurred frequently; and it is oftenest in such instances, I presume, that the obstetrical practitioner may look for a lesion of the perinæum as likeliest to occur, unless prevented by means of support applied with the bare flat of his right hand when the foetal head is resting *firmly* on the perinæum, and coming forth under the continued expulsive uterine pains. When the propriety of affording support at this juncture of the case is convincingly felt by the medical attendant, his hand should be so applied as to compress and include within it the vertex of the foetal head, and also to pilot it if anything a little forwards; and while it is emerging quickly from the vulva, he should keep the hand steadily in apposition, and at the same time depress backwards gently the perinæum over the face and