

observations on the subject in a public journal, had I not thought them confirming Mr. Clay's views, and as such I beg to offer them, coinciding as I do with that gentleman, and feeling convinced that small doses of mercury, frequently repeated, are more rapidly efficacious than large ones, administered at long intervals. I am, Sir, your obedient servant,

JOHN H. TOSSWILL,
One of the Surgeons to the Leicester
General Dispensary.

Market-street, Aug. 24, 1841.

MORTON'S TEST FOR ARSENIC.

To the Editor of THE LANCET.

SIR:—In THE LANCET of the 14th August, I observe a letter from Dr. Collier on the fallibility of the tests for arsenic. The test with Marsh's apparatus, where you are obliged to use zinc and sulphuric acid, *both of which may contain arsenic*, no doubt, is fallible; but I feel pretty certain that the decomposition of distilled water by galvanism, to which a few drops of the suspected solution has been added, as recommended by Mr. Morton, *if properly conducted*, will prove, positively, whether arsenic exists or not. I have lately tried this plan several times with a very minute quantity of a suspected liquid, previously deprived of its animal matter, and have always obtained an arsenical crust on porcelain, by burning the hydrogen gas, so satisfactorily, that I have not only been able to test it over again with ammoniacal nitrate of silver, but have distinctly made out the octahedral crystals of arsenic by the third and fourth powers of a microscope; and as you can obtain no stain from pure hydrogen *without arsenic*, this seems to me a proof so convincing, that unless some reason is given of its fallacy, I must own my readiness to firmly believe it.

In the "London Medical Gazette" of the 20th of last August, is the report on the Detection of Arsenic read to the Academy of Science in Paris, where I am astonished to find that this plan is totally overlooked.

Should any of your numerous readers be aware of any doubt that can be raised against this test, I shall esteem it a favour if they will mention it through your valuable Journal. The subject is one of the greatest importance. I am, Sir, your obedient servant,

E. J. SHEARMAN, M.D.
Rotherham, September 3, 1841.

UNITED HOSPITAL, BATH.

TUMOUR OF THE BREAST—OPERATION.

CASE.—Martha Bird, ætat. 35, married seventeen years, had no issue, a tall, spare person, of a sallow complexion, presen-

herself at the United Hospital, September 7, seeking relief from an enormous tumour of the right mamma; irregular on its surface; having prominences here and there, varying in size from a nut to a pullet's egg. The skin covering the tumour was of a natural colour, excepting over these protuberances, where it was somewhat mottled and brownish. The tumour occupied the situation between the first and last true ribs, and from the margin of the axilla to the sternum; and was freely movable on the surface of the pectoral muscle. At the anterior part were three ulcerated spots, from which arose fungous growths; these sometimes bled freely, especially if injured. There was no distinct fluctuation; but in parts the tumour felt hard, and almost like carcinoma; in other parts, soft and flaccid. The glands in the axilla were apparently free from the disease.

Measurement.—Longitudinally, $21\frac{1}{2}$ inches; transversely, 21 inches; circumference at the attachment of the tumour, 27 inches; at the centre of the tumour, $40\frac{1}{2}$ inches.

History.—States that, about three years since, her attention was directed to her right breast by a sensation of cold, accompanied with smarting pain, at the upper surface, which she could cover with a sixpence: at this time there was no apparent enlargement in any part of the breast; and she thought these sensations would soon go off, instead of which they increased, and she was induced again to examine the spot, when she found a round tumour, which she describes as about the size of a marble, but not so hard: this gradually increased in size, though the pain remained stationary, till within the past six months; since which it has made very rapid progress, having attained to more than one-half its then size, and with a diminution of pain. She has been regular till within the past six months: since its first appearance her appetite has been unusually good, and she describes her general health as by no means impaired, though her countenance indicates disease. She had never consulted any surgeon till last week, when she applied to a gentleman for relief, who desired her to seek it at the hospital, to which place she repaired, requesting the removal of so great an inconvenience, and was, by Mr. Norman, admitted.

Operation.—Sept. 8, an incision was made through the skin completely around the tumour; and the dissection of it, from the surface of the pectoral muscle, commenced from above; several large vessels were secured during the operation, and some smaller ones afterwards. The operation was concluded in sixteen minutes. The skin was brought together by sutures and strips of adhesive plaster, over which was applied a compress and bandage.

Weight.—Immediately the operation was concluded the tumour was placed in the

scales, and found to weigh fourteen pounds within an ounce.

Pathological Appearances.—On cutting into the tumour it appeared to be solid, and of a fibrous nature in the centre; but on the surface were numerous cysts, varying in size from a horse-bean to a pullet's egg: some containing albumen in a higher or lower state of organisation; others, a greenish yellow serum. At the anterior part of the tumour were several fungous growths, which gave it the appearance of being malignant; and this, with its solid nature, would have led to the belief of its being so; but the absence of disease in the axillary glands, and the character of the surface of the tumour, being cystic, forbids the idea, and leads to the conclusion that the centre of the tumour, in its early stage, was also encysted, but had by time and inattention been converted,—as Sir B. Brodie, in his lecture on sero-cystic tumours (*Med. Gaz.*, Feb. 21, 1840, p. 808,) has explained,—into a solid mass.*

After-Treatment.—Nothing worthy of notice occurred in the after-treatment of this case. For some days the patient looked better than before the removal of the tumour, when a diarrhoea came on, which lasted for ten days; and from its debilitating effects threatened to prove fatal, but, under a generous diet and port wine, with an astringent mixture containing a few minims of opium, she recovered, and was discharged November 23rd, the wound being healed, and her general health good.

H. W. H. RICHARDSON,
Late House-Surgeon of the Hospital.
7, Alfred-street, Bath,
Aug. 29, 1841.

MIDDLESEX HOSPITAL.

SEVERE LACERATED AND CONTUSED WOUND OF THE HAND.—QUESTION OF AMPUTATION.
CLINICAL REMARKS BY MR. ARNOTT.

JOHN HARNNAH, aged 18, was admitted Dec. 14, 1840, at 11, A.M., under the care of Mr. Arnott, his left hand having been caught between the cog-wheels of a sausage-machine, was terribly lacerated. The hand had been jammed so close, that it was necessary to remove one of the wheels in order to release it. On the posterior surface the skin was extensively torn; the head of the middle metacarpal bone and the greater part of its body were exposed and partially denuded, and at about the centre of the shaft it was splintered and the sides driven in. A narrow slip of skin was left between this bone and the metacarpal bone of the ring-finger, which was also exposed, but not otherwise injured.

* Sero-cystic tumours by neglect and long-standing, doubtless, becomes malignant.

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A small artery spouted out blood pretty freely, but was easily stopped by pressure. A finger might be thrust deeply into the wound between the metacarpal bones, and be made almost to emerge on the palmar surface. The metacarpal bone of the little finger was also extensively exposed and partially denuded. There were several deep and extensive lacerations on the palmar surface, and one at the inner side of the wrist, but it was uncertain whether it communicated with the joint or not.

In reference to what was to be done in this case, Mr. Arnott observed that the following considerations presented themselves to the mind. The injury was a very serious one; a good deal of skin was destroyed; the metacarpal bones were exposed, and one of them quite smashed; the laceration at the wrist was deep, and might, probably, communicate with the joint. These circumstances seemed to indicate the propriety of amputating above the wrist. But, on the other hand, the patient was young, his habits had been good; there was a doubt as to the wrist-joint being opened; the loss of a hand was a very serious matter, and it was worth while going through a good deal for the chance of preserving it. Could not a part of the hand be saved? The outer three fingers might, indeed, be removed, but so much skin was destroyed, that after their amputation there would not be sufficient of the skin left to form a covering for the metacarpal bone of the index-finger; and although the metacarpal bones of the ring and little fingers were stripped to some extent of their periosteum, yet at so early a period of life they were so vascular that the bones would possibly granulate without exfoliation.

It was, therefore, under these circumstances, determined to remove the middle finger with its metacarpal bone alone, to leave the parts open, so that no matter could collect; and then, if it should be necessary, to resort to amputation of the forearm at a future period. The operation was performed about two hours after the accident. The metacarpal bone was removed from the back of the hand, so that the palmar integuments were left untouched. The wounds were left open; the arm and hand raised on pillows, and the water-dressing applied. To have a saline draught, containing tartarised antimony, every six hours.

15. Has passed a tolerable night, and without much pain. To have fifteen grains of the compound jalap powder.

16. Tongue foul, some fever. To have four grains of calomel at bedtime.

17. Going on well. Poultices to be applied instead of water-dressing.

19. Doing well, but complains of some degree of pain and a tingling sensation in the ring and little fingers. A single strap of adhesive plaster was applied round the