tender, and finally, presented the condition already described.

On more carefully examining the swollen tissues, I could indistinctly make out a deep-seated tumor whose centre corresponded with the spot of greatest swelling and tenderness referred to above. This tumor appeared to be about the size of a large olive and was quite hard, its axis corresponding with that of the cord. A very narrow neck extended from its upper extremity to the external ring. There was no impulse when the child cried. I pushed the needle of an aspirator into the centre of the tumor, and drew out one or two drops of a yellowish fluid, which, examined under the microscope, were found to contain pus cells. I then made a free incision down to the tumor and pushed a director into its centre. Nothing escaped through the hole. I then dressed the wound and sent the patient home, giving directions that a poultice should be applied every three hours.

A day or two later I succeeded in getting the patient admitted to the Children's Hospital; and Dr. E. H. Bradford, into whose wards he came, most kindly invited me to take full charge of the case and to do whatever operation I might think necessary. As the child was puny, the operation was postponed for about two weeks until he should gain a little flesh and strength. A poultice was applied to the wound, and the swelling, heat and redness gradually disappeared. As the child would now allow a thorough examination of the parts without making a disturbance, the "deep-seated tumor," was repeatedly examined. In spite of this, however, no new facts of diagnostic value were brought out.

About two weeks after the aspiration referred to, I operated, Dr. Bradford kindly assisting. A long incision in the direction of the cord exposed the anterior surface of the tumor, which was then gradually separated from the surrounding parts. This was easily done below (on the end toward the testicle), but behind, the cord appeared to be imbedded in the substance of the tumor, and considerable dissection was necessary in order to set it free. From the upper end of the tumor extended in the direction of the external ring a structure about two inches in length, and of about the thickness of an ordinary lead pencil. In order to examine this more satisfactorily, the cut was extended to the external ring and as the "neck" was seen to enter it, the ring was freely laid open. It was then noticed that the neck was slightly larger in the vicinity of the canal than below; and that near the tumor it was somewhat flattened and gave the impression to the fingers (as they rolled it between them) of being a collapsed hollow tube. On the surface were to be seen numerous small bloodvessels regularly distributed. Gentle traction was made on this neck and a piece of intestine was pulled out of the ring for a short distance. This intestine proved to be the cæcum. The neck then was the appendix and the "tumor" was presumably inflammatory induration about the tip. A large part of the appendix together with the adherent "tumor" was removed. The edges of the stump were then inverted, sewed together, and the whole returned to the abdomen. The pillars of the ring were stitched firmly together, and the edges of the skin wound united.

The specimen removed was sent while yet fresh, to Dr. R. H. Fitz, who kindly examined it and made the following report:

"The specimen was an elongated cylindrical mass

of tough tissue. On section the amputated vermiform appendix filled the centre and its peritoneal surface was so intimately fused with the surrounding, dense, fibrous tissue as to prevent detachment. The canal of the appendix was open, its mucous lining free from abnormal changes. A narrow sinus, presumably due to the exploratory operation, extended from the surface of the specimen to its interior, near the tip of the appendix. The condition was evidently a chronic adhesive peritonitis, the result of an appendicitis obliterating the peritoneal pouch in which the appendix lay."

The child's recovery was somewhat interrupted by a suppuration around one of the deep sutures. For a few days after the operation there were also certain threatening symptoms, such as tympanites, high temperature, some abdominal tenderness, etc., but soon these disappeared and the wound granulated, and the child was discharged from the hospital about five weeks after the operation in excellent physical condition and with the wound firmly healed.

Remarks.—The true state of things was not recognized in this case until, during the operation, the tumor and the neck had been dissected out and lifted from their bed. The whole clinical history of the case then became clear. It was then evident that when the child was first brought to the Dispensary he was suffering with *acute appendicitis in the scrotum*; that the aspirator needle removed all the pus present at the seat of inflammation; and that when the director entered the tumor, there was no more there to come out; that the acute symptoms subsided rapidly and that the tumor disclosed at the operation was nothing more than chronic inflammatory indurated tissue formed about the tip of the appendix.

It is rather disappointing on reviewing the history of the case to be obliged to admit that there was nothing sufficiently distinctive to be of any great assistance in a diagnostic way in any future case where a similar condition may exist. It is, however, well to bear in mind that a well-defined, though small, cord running out of the right external inguinal ring and passing downwards into the scrotum, lying superficial to the spermatic cord and more or less parallel with it, *may be* the vermiform appendix which has descended from the abdominal cavity, and, having acquired adhesions in the scrotum, cannot return. Possibly the adhesions will have formed so appreciable a tumor as to attract the principal attention of the surgeon, as in the case just reported.

A PROTEST AGAINST EMBALMING.

BY THOMAS M. DURELL, M.D., SOMERVILLE, MEDICAL EXAMINER.

ONE of the greatest evils with which the medical examiner has to deal in the discharge of his duties is the universal custom of embalming the bodies of the dead. This has increased rapidly within the past few years, and now it is almost the universal custom of undertakers (at least in this vicinity) to at once inject a quantity of fluid into the abdominal cavity, and also to pour as much as they can into the mouth and nostrils. Some of them, also, open one of the large vessels and inject a large quantity in this way. All of the embalming fluids with which I am familiar contain a large amount of arsenious acid, some compound of mercury, usually corrosive sublimate, and some compound of zinc.

A case has recently come under my notice in which the evil of this practice is painfully apparent. On Monday, April 7, 1890, Mrs. Mary A. Murray, a young woman twenty-three years of age, living at Everett, without any previous sickness or mental depression, was taken about 11.30, A. M., with severe colicky pains in the stomach, vomiting, and burning in the epigastrium. Shortly afterwards she began to have severe convulsions, and died at about 1.30, P. M. (two hours or less from the time of seizure). During this time she was seen by several physicians, but no diagnosis was made, neither was the vomitus saved nor the police or medical examiner notified. At about 8.30, P. M., I received notice of the case from Chief Emerton of Everett, and at once repaired to the place designated. In the mean time an undertaker had been to the house, and had embalmed the body. I was convinced, from the history of the case, that the death was due to poison, — the nature of the poison I could not make out, but from the rapidity of the fatal symptoms and the early appearance of the convulsions, I was led to believe that it was some of the alkaloids, — and on this supposition believed that the chemists could easily detect any of these poisons in spite of the embalming fluid. I also saw the undertaker, and he told me that no fluid had been put into the mouth or any other part of the body except that which had been injected into the abdominal cavity. The autopsy, made the next morning, revealed the following conditions: Body well nourished; no external marks of violence except small punctured wound two inches below and to the right of the umbilicus (made by undertaker); no signs of any erosions about the mouth. Section: Vessels of intestines and mesentery injected; right side of heart distended with dark fluid blood, valves and cavities normal; lungs heavy and filled with dark fluid blood; kidneys and liver injected; duodenum, mucous membrane red in spots; the remainder of the intestinal tract normal in appearance. The œsophagus and duodenum were ligated, and the stomach carefully removed. The organ was opened over a perfectly clean glass jar, and all the contents saved and sealed. The mucous membrane of the stomach was markedly injected, and was dotted over with minute white particles. The organ was placed in a clean glass jar and sealed. The other organs of the body were normal in appearance, with the exception of the brain, the vessels of which were filled with dark fluid blood. A portion of the liver, the kidneys, the stomach, the contents of the stomach, and the brain, were delivered by me to Dr. William B. Hills, at the Harvard Medical School, for chemical examination.

HARVARD MEDICAL SCHOOL, CHEMICAL DEPARTMENT,
BOSTON, MASS., April 15, 1890.

T. M. DURELL, M.D., *Med. Exam. for Middlesex Co.*

DEAR SIR: — I have carried my analysis of the organs of Mary A. Murray (received from you April 8, 1890) as far as seems to me necessary at the present stage of the case, with the following results: My investigations thus far have been confined to the contents of the stomach, which consisted of a trifle over two ounces of a dark, very viscid liquid, holding in suspension fragments of meat, fat, and some fruit (pieces of orange or lemon apparently). Microscopic examination revealed the presence of blood globules, epithelium, fat, muscular fibre, starch, red and bluish-black amorphous fragments, and numerous small, irregular-shaped crystalline fragments, which had been so worn away by contact with the liquid in which they were

suspended, that their nature cannot be stated with certainty. In connection with the results of the chemical examination, there are some reasons for believing that they are fragments of crystals of white arsenic. The analysis of the contents of the stomach discloses the presence of a relatively large amount of arsenic in the form of arsenious acid. As the body had been "embalmed," the question of embalming fluid as an explanation of the arsenic in the stomach becomes an important one. There are only two ways by which the embalming fluid could have reached the interior of the stomach in this case: (1) By diffusion through the walls of the stomach; (2) by direct introduction into the stomach. The amount of arsenic in the contents of the stomach is, in my opinion, much too large to be explained on the former supposition. To be explained by the second supposition, the contents of the stomach must necessarily contain *all* the ingredients of the embalming fluid. I have made a partial analysis of the embalming fluid which you delivered to me April 4, 1890, said to be the one used in this case, and find that it contains arsenious acid and some compound of mercury, probably corrosive sublimate. The contents of the stomach, however, do not contain any mercury. Therefore the embalming fluid could not have been introduced directly into the stomach. Taking these facts in connection with the symptoms, it is my opinion that the arsenic was taken into the stomach before death, and that death was due to poisoning by arsenic.

Yours truly,
(Signed), WILLIAM B. HILLS.

As a result of this examination I made my report to the district attorney and the judge, that the death was due to arsenical poison. An inquest was held, and the undertaker then made the statement that he had poured about a pint of the fluid into the mouth and nostrils of Mrs. Murray. After such a statement, it was thought undesirable to proceed further with the case (some other legal considerations entered into the abandoning of the case, with which we have nothing to do).

With a statement such as the one made by Professor Hills, no physician would hesitate to believe that the death was due to poisoning by arsenic, even if the undertaker did pour fluid into the mouth and nostrils; but it would be hard to convince twelve average jurymen that the arsenic was introduced before death. I must say that I do not believe the statement that a pint of fluid was poured into the mouth and nostrils, for only *two ounces* of fluid of any kind was found in the stomach, and that fluid did not contain any mercury, with which the embalming fluid was saturated.

This is, I believe, only one of many cases where the ends of justice are defeated, and all chance of detecting poisons (*i. e.*, the most common arsenic and corrosive sublimate) rendered impossible by this process of embalming.

Cannot something be done by our law-makers to remedy this evil? If a law were passed something after the manner of the following, nearly all of these cases would be reached, and at least a delay of some hours be caused, in which the authorities might act: No body shall be embalmed, nor shall any fluid (so called embalming) be used on or about the body until the physician's certificate of the cause of death shall be obtained, and that certificate be approved by the Board of Health.

— A report of the Osaka medical work of the Japan Mission of the American Board of Foreign Missions shows a total of 2,581 persons treated during 1889, upon whom 375 surgical operations were performed.