

First, that it is possible to puncture an aneurism with a fine canula without risk of serious hæmorrhage, either at the time or subsequently through the puncture. Abbe's case did not lose three ounces of blood, although when the canula was first introduced the blood spurted three inches. This part of the operation is therefore without serious danger, an important lesson. Second, the use of wire or any other material, which, when within the sac, will increase the pressure, is attended with risk. This forbids the use of elastic wire. Third, the introduction of a large mass of wire, even although it be inelastic, is not advisable, first, because of its weight, and second, because so large a quantity of wire cannot be introduced into a small cavity without producing tension, which is the very thing to be avoided in an aneurism.

The use of electricity in connection with a mass of wire within the sac has already been alluded to, but the method of inducing the formation of a clot by galvano-puncture alone far antedates the method of Morse, having been first used by Phillips in 1829.

To Ciniselli, however, we are indebted for its full development. So far there have been 114 cases reported, with the following results: Temporary benefit, 69; 38, no improvement; 7, doubtful. Barwell, in his commentary on Ciniselli's article, says that the improvement in most of the cases reported as benefited is to be regarded as very doubtful. Even Dujardin-Beaumetz admits that the benefit was temporary, the interval of life in the most favorable case being five years. One may criticise this method as follows: In the first place, the amount of clot produced around each needle is very small, so that where several needles have been used, we do not have a uniform deposition of fibrin throughout the whole interior of the sac, but rather several isolated deposits, and these may or may not be at the weakest point. The method does not seem to be attended with much, if any, danger. Observers seem to support Barwell's notion, that the method is not as productive of benefit as the authors in question would lead us to suppose. So far, all the procedures which have been noticed, have dealt with the sac itself, and are particularly adapted to aneurisms of the thoracic aorta, where interference with the vessel itself is out of the question. I have said out of the question, nevertheless, I have been able to find two cases in which a temporary ligature of the thoracic aorta was done for aneurism. One of these cases was reported in the *An. d. Cirgia*, Argentine Republic, Buenos Ayres, 1892, xv., p. 146. In this case the vessels ruptured into the posterior mediastinum. The other case is reported by Villar in the *Mem. et Bull. Soc. de Med. et Chirurg.*, Bordeaux, 1892-3, p. 20-30. In this case the rupture also occurred into the posterior

mediastinum. Any discussion of these cases seems out of place, as we do not live in the Argentine Republic or in France, and such interference here might bring us into strained relations with our Boards of Health with regard to the proper wording of the death certificate. It does not seem out of place, however, to discuss the question as to whether the abdominal aorta may not possibly be made the subject of an operation, which shall be feasible and curative. Already in England a very common way of treating aneurisms of this part of the aorta has been by means of compression with the aorta compressor for a number of hours, generally under an anæsthetic. Ten cases have been treated after this method, five successful, five unsuccessful. All the deaths have resulted from injury to the abdominal viscera, due to the long-continued and great pressure employed. The method was employed before the days of antiseptic surgery, and its use was due to the dread which then prevailed of opening the peritoneum. An operation, which, although seldom done, has a record of fifty per cent. of recoveries, deserves more than a passing mention. Evidently in the successful cases, the circulation in the abdominal aorta was, if not entirely obstructed, sufficiently obstructed to effect a cure. Therefore this may be regarded as possible, to obstruct the blood current through the aorta long enough to cure an aneurism, and yet not injure the vessel at the point compressed so as to give rise to hæmorrhage. Now may this be safely done with regard to the opening the peritoneum for merely explorative purposes? I have seen the peritoneum opened merely because a woman complained of a constant pain at a particular point, there being no evidence whatever of tumor. The operator found nothing, and closed the abdomen with the remark that if the pain was of hysterical origin the operation would probably do the woman good anyhow. There is hardly any operation with less risk nowadays, than these merely explorative openings. It is extremely rare for an accident to happen as a result of the operation itself. We may, therefore, set this consideration aside. We are at liberty certainly to examine an abdominal aneurism. Can we safely apply a ligature to the vessel, either by temporary ligation or permanently? Let us consider the first question. If the ligature is to be applied above the origin of the renals, the only possible procedure would be the temporary ligation or ligation immediately below, for I do not think that there is sufficient collateral circulation between the thoracic and lumbar intercostals to supply the kidneys with sufficient blood to keep the system clear of urea. If the old methods of ligation are to be adopted, which entail the use of a rather narrow ligature with rupture of the inner coats, and obliteration of the vessel, I do not believe that we can depend on this method of tem-