

respiratory act, has led Langenbeck to desire the patient in such cases to breathe deeply; that is, of course, unless he be under the influence of an anæsthetic. But in wounds of the large veins of the neck, deep inspiration must be avoided, on account of the danger of the entrance of air into the veins. In tracheotomy, the hemorrhage from the thyroid veins is arrested by the inspiration, which takes place as soon as the air-passages are opened. Styptics are regarded by Langenbeck as of very little use in obstinate venous hemorrhage; while, in ordinary cases, the bleeding ceases spontaneously. Obstinate bleeding from the smaller veins is best arrested by the actual canter. In hemorrhage from the larger veins, compression with the finger must be first tried; a slight amount of pressure may be sufficient. When a vein of one of the limbs is cut across, compression of the distal end is generally sufficient; but, if this fail, the proximal end must also be compressed. In wounds of the external or of the common jugular, the compression must be first applied to the central or proximal end, on account of the danger of entrance of air. In hemorrhage from the larger veins, digital compression is only a temporary means, and must be replaced by a bandage. The object of the bandage is to close the wound without impeding the circulation; and for this purpose Langenbeck prefers strips of sticking plaster, where the edges of the wound can be brought together. When the vein lies deep, and the edges of the integument will not come together, he advises that a piece of lint smeared with cerate be laid on the vessel, and that compression be made by filling the wound with charpie. If a ligature must be applied, it is generally sufficient to tie the distal end; but the proximal end must also be tied, if large branches open into it. In the removal of tumours, when it is an object to avoid loss of blood, the vein may be ligatured in two places previous to the operation, and cut through; the ligatures are removed after the operation. Ligature of veins is, however, to be avoided as much as possible, especially in large hospitals, on account of its liability to be followed by thrombus and pyæmia. The vein may again become pervious, by the removal of the thrombus formed in it when ligatured.

On ligature of the arteries in venous hemorrhage, Langenbeck remarks that the dread of inducing gangrene has probably restrained surgeons from having recourse to this proceeding. But, while ligature of a large artery may be followed by capillary anæmia and functional disturbance of the part supplied, which may be gradually removed as the circulation becomes re-established; ligature of a vein is likely to produce venous capillary hyperæmia and serous exudation, and even inflammation of the vessel. Ligature of both the artery and the vein, however, appears less likely to produce mischief than when only one vessel is tied; at least, Langenbeck has in two cases tied both the carotid artery and the common jugular vein, and in neither were there any symptoms of importance referable to disturbance of the cerebral circulation. He refers also to a case in which hemorrhage of the femoral vein was arrested by ligature of the corresponding artery; and to an instance of popliteal aneurism mentioned by Crisp, in which hemorrhage from the wounded popliteal vein ceased when the artery was tied. He is evidently reluctant to tie a vein when such a proceeding can possibly be avoided.—*British Medical Journal*, June 15th, from *Schmidt's Jahrbücher*, Bd. 109.

35. *Treatment of Bubo by Injection.*—Dr. PIZZORNO strongly recommends the following mode of treating bubo, which he has pursued in more than 500 cases with great advantage and no ill effects: When suppuration cannot be prevented, the bubo should be opened sufficiently only to discharge the pus and to admit the point of a small glass syringe. A solution of corrosive sublimate (two grains to three ounces) is then to be thrown in with force two or three times in succession, and after the sac of the abscess is thus well washed out, a little of the solution is still to be left within it, the aperture being then covered with some shreds of lint and compresses moistened in the solution. Pressure is also to be made with a long and broad bandage. Sometimes at the end of the first twenty-four hours suppuration has ceased, and the external application alone has to be continued. When this is not the case the injection has to be repeated every twenty-four hours until the suppuration ceases. Upon an average about seven-

teen days are required to obtain a complete cure of the bubo. In indolent bubo, when frictions with extract of cicuta and blue ointment, a few doses of calomel, and compression by bandages do not succeed, the author applies a blister and dresses it with a weak solution of corrosive sublimate.—*Med. Times and Gaz.*, August 17, 1861, from *Omodei's Annali*, Feb.

36. *Gunshot Wound of the Heart*.—Dr. R. ADAMS read before the Surgical Society of Ireland an interesting case in which the left ventricle of the heart was perforated through and through, by a gunshot wound made by a leaden slug the size of a small swanshot. The subject of it was a man æt. 43, who, whilst passing along the street, accidentally received the contents of a gun. The man, when shot, staggered back, but soon recovered himself, and ran unassisted into a neighbouring surgeon's shop, complaining of weakness, and having the aspect of extreme exhaustion. He was speedily taken to the Richmond Hospital, Dublin. When he arrived there, he was pale, pulseless, and gasping. He was offered a wineglassful of brandy, which he drank well, then expressed a wish to be raised from the horizontal posture and be placed sitting, which was done accordingly, but in five minutes he expired, having lived about one-half hour after he had been wounded.

On post-mortem examination the next day, it was found that the slug had entered the skin behind and below the level of the nipple of the left breast, struck the fifth rib, and then passed through the intercostal space between the fifth and sixth rib, traversed the pericardium and left ventricle of the heart. Two ecchymosed spots on the outside of the pericardium showed the places of entrance and exit of the shots. The pericardium was distended with coagulated blood, which was seen to ooze out through the small apertures made by the fatal shot. The bag of the pericardium was then slit up, the mass of black coagulated blood sponged out, and two round holes, capable of permitting a goose-quill to pass through, was noticed to perforate the left ventricle. The anterior opening, or that of exit, made by the slug in the left ventricle, was about the size of a split pea, rounded in form, but presented somewhat of a lacerated margin, and with an ecchymosed areola round it. The posterior opening, or that of entrance, was smaller, more regular in form, and scarcely any ecchymosis around its margin. When the relative position of the six perforations, which the fatal shot had made, was contemplated, and a probe passed from the external wound, it was plainly to be inferred that the most posterior wound in the skin behind the nipple of the left breast was the spot where the shot first entered, that the fifth rib was struck, and caused this shot to turn a little downwards, and that it thence passed from behind forwards, having entered the left ventricle of the heart posteriorly behind its left margin, about an inch and a half from its apex, and passed out in front close to the anterior edge of the septum ventriculorum. Looking at the relative position of these openings, it is difficult at first to conceive how a part of the left ventricle, so deeply situated in the thorax as the opening of entrance was, could have been thus wounded; we must under the circumstances only conclude, that at the critical moment the heart was stricken the whole organ must have been strongly rotated on its long axis from left to right, and the left margin of the heart thus become elevated. Search was made for the slug near to the junction of the diaphragm, with the base of the thorax anteriorly, but it could not be found. It is easy to imagine how the left lung could have escaped when the slug made its exit anteriorly, as this is the part of the heart uncovered by the lung, but difficult to conceive how so retired a portion of the left ventricle could have been thus penetrated and the left lung escaped, which appeared to have been the case, as no ecchymosed spot appeared on this organ, nor had any air escaped, as the lung at the part under examination was full and distended, concealing the pericardium.

It would appear that the slug in its course passed rather obliquely through the wall of the ventricle, and that the little canal which formed its trajet only communicated in about the middle of its course by a small lateral opening with the cavity of the left ventricle. The ultimate result was, however, the same as if the cavity of the left ventricle had been more directly traversed through and through at once. These two small perforations in the left ventricle of the heart