

marked, "I have long since been of opinion that compression of an artery on the distal side of an aneurismal sac should precede or accompany that on the cardiac side of the aneurism. I have often observed arrest of pulsation easily accomplished, attended at the same time with a flaccid state of the sac; but I have also remarked in such cases that the moment the pressure ceased the sac filled and throbbed as before. The formation of the coagulum is thus desirable as the first step to consolidation. A half empty sac is the ready recipient for the slightest thready current that can follow the cessation of the compressing force on the cardiac side. It, therefore, appeared to me advisable to interrupt the current only when the sac was full of blood. These considerations, together with the knowledge of the fact that ligature of the artery on the distal side has sometimes cured an aneurism when the upper or cardiac portion of the vessel could not be reached, made me resolve to try this expedient whenever a fair amount of pressure was not followed by success. From what I have observed, I am inclined to think that cessation of pulse in a sac which suddenly diminishes in size and becomes flaccid is less likely to be followed by a permanent cure, whatever time may have been occupied in the compression, and that a sac which retains its volume, and is, moreover, full of coagulum, is less likely to be refilled, however short the duration of the compressing force.

"When the supply is completely cut off by ligature of the trunk, I believe that the danger of relapse from refilling of the sac by collateral sources is more likely to occur when the sac collapses and becomes flaccid at the moment of deligation than when its dimensions are unchanged. This firmness of the parietes of the sac is always considered favourable to the success of the operation, as implying the presence of fibrinous deposits, whether we attribute them to stasis of the blood or to inflammatory exudation, as suggested by the researches of that distinguished surgeon, the late Dr. Abraham Colles. I have no doubt, however, that whether a sac be filled by fibrinous deposits of some duration, or by coagulum recently formed, that a full sac is very influential in preventing the ingress of blood from a compressed artery above, or collateral branches from below; the compression below the sac need not, in some cases, last more than a few minutes before the current above is stopped. If, on making the pressure above and arresting the pulsation the sac remains full, the object is attained, and time is merely required to allow the blood then liquid to coagulate in the sac. In other cases, it may be prudent to continue both compressions for a longer time. Three cases have already been treated on this plan with success. The first was published by me in the *Dublin Quarterly Journal* for November, 1846."—*The Medical Press*, March 15, 1865.

28. *Aneurism by Anastomosis of the Scalp treated successfully by Setons and Ligature of Common Carotid*.—Mr. Geo. Southam related to the Royal Med. and Chirurgical Society (March 14th, 1865) the following case:—

The patient, a married female, aged 28 years, had been suffering from the disease for upwards of eight years. She became an in-patient of the Manchester Royal Infirmary in May, 1864. The temporal artery and its branches, with the exception of those distributed around the eye and forehead (which, though visibly distended, were not pulsatile), were much enlarged, some of them almost to the size of the little finger, and communicating to the hand a distinct arterial thrill. The occipital artery and its branches were also similarly affected, though in a less degree. Pulsation was only slightly checked by pressure on the trunks of these vessels, but was completely suspended by compression of the common carotid. An ulcer had formed over the parietal protuberance, which had bled rather freely on several occasions. An attempt was made to remove the lint from the ulcerated surface; but arterial hemorrhage supervened to so great an extent that the bandages were immediately replaced. On the following day, having taken the precaution to have the requisite appliances for the arrest of hemorrhage at hand, the compress was removed in the presence of several members of the hospital staff. Profuse hemorrhage followed from the ulcerated surface, which occupied a space of about an inch and a half in diameter. Pressure with the fingers failed to stop the effusion of blood, escaping as it did from countless sponge-like orifices. Lint steeped in a solution of perchloride of iron was also

applied, and the carotid compressed; but the blood continuing to flow, with the consent of his colleagues, Mr. Southam proceeded to place a ligature on the trunk of the common carotid, which had the desired effect. Seven days after the operation the vessels of the scalp were soft, flaccid, and apparently bloodless; but very feeble pulsation could be felt in the course of the temporal artery. Four setons of worsted, about four inches in length, were now passed through the vessels, one across the temporal fossa, the others through the parts of the scalp where the vessels were most distinct. The week following, some of the vessels near the original sore were found distended, and slightly pulsatile. Three setons were inserted through them, and another about a fortnight afterwards at the posterior part of the occiput, where a vessel about an inch and a half in length could be distinctly traced pulsating slightly. From this period the case proceeded satisfactorily, and on the 12th of August she left the hospital quite well, with the exception of a small ulcer at the back of the ear, which was the remains of a slough that had taken place in that part. At the end of December there were no signs of any return of the disease. The author remarked that the success of the plan of treatment adopted in the above case afforded a prospect of bringing this hitherto unmanageable complaint more effectually under the control of the surgeon. At the time of the patient's admission into hospital, the disease had arrived at a stage when prompt measures were absolutely necessary for the preservation of life. Accordingly, on the supervention of hemorrhage, ligature of the carotid was immediately resorted to. But the unfavourable results which have frequently followed deligation of the carotid for aneurism by anastomosis of the scalp induced the author not to rely solely on that method of treatment; and the further progress of the case showed that if other means in addition had not been employed, no permanent benefit would have resulted from the operation. This need excite no surprise, for the operation to be successful must either permanently cut off the circulation through the diseased vessels, or lead to their obliteration—conditions which, however probable when the disease is confined to a single vessel, and assumes the ordinary form of aneurism, are not likely to follow when several are affected, as in the present case, involving the entire temporal system, with its arteries, veins, and capillaries. For the blood in the vessels after deligation does not coagulate, but readily finds its way into the general circulation, and the vessels remaining unchanged become again distended as soon as the circulation through the anastomosing branches is re-established. But, despite these drawbacks, deligation, even when not required for the suppression of hemorrhage, has its advantages; for the temporary interruption which it causes to the circulation through the diseased structures affords a favourable opportunity for the application of other remedies. Setons were therefore resorted to as soon as there were indications that the scalp was supplied with blood sufficient for reparative purposes. They were applied at intervals wherever any return of pulsation showed itself. It is unnecessary to dwell on the futility of trusting to setons only in the treatment of these cases. They have so repeatedly failed that their success in the present instance must be attributed to the quiescent state of the circulation produced by the ligature of the carotid. In confirmation of this view, the author referred to the case of a young lady who was under his care several years ago, whose index finger and thumb had become, through enlargement of the vessels, twice the natural size. Some of the vessels were in circumference as large as goose-quills, and gave a livid-bluish appearance to the fingers. Not the least pulsation or arterial thrill could, however, be discovered; and the vessels could be partially emptied of their blood by pressure. Three fine worsted setons were passed from the hand to the apex of the finger. Others were inserted at intervals. At the end of six months all evidence of the disease had disappeared. Deligation of the arteries, therefore, prior to the insertion of setons, does not appear necessary in all cases of aneurism by anastomosis. The disease is an affection of arteries, veins, and capillaries, varying in its characters according to the extent to which each of these structures is implicated. Deligation, therefore, seems to be required where the arterial tissue is principally involved, or where the enlargement of the capillaries has taken place to such a degree as to enable the force of the heart's action to communicate its impulse

through the capillaries to the blood circulating to the veins. Similar considerations will also determine the extent of deligation, which, except where severe hemorrhage occurs, need, in the majority of cases, only be applied to the smaller arteries. Though setons were employed in the case now related, yet galvanism, the injection of perchloride of iron, and other similar agents, may, in some instances, perhaps, be advantageously substituted; and even the risks attending ligature of the arteries may, by instrumental or digital compression, be occasionally obviated.

Mr. C. H. MOORE said the ligature of the carotid in this case was not for the cure of the disease, but for the arrest of excessive arterial hemorrhage. It was quite a different question whether such aneurisms required ligature of the vessel for their cure. In some it would not be necessary; in others the predominance of large arteries might, perhaps, be so great as to demand the operation. He had seen a case in which the tumour was as large as that described by the author in which (under Mr. De Morgan's care) cure had been effected by setons repeatedly passed, by needles, over which were placed caoutchouc rings, and by threads carrying perchloride of iron. By these means the tumour became so much less that the patient could leave the hospital. Five years later he came under the care of Mr. Nunn. He then had an overlap or fold of skin in the position of the tumour, but no trace of the former disease. There was an abscess, of the size of two eggs, which occupied the site of the tumour. Mr. Moore then referred to vascular tumours of the scalp in children, which sometimes attained a formidable size, and then occasionally attempts to cure them were followed by inflammation and death. He had had no experience of tying the carotid in such cases, but when a large vessel was open and it was impossible to tie it or the vessels entering the tumour one after another, it would be necessary to tie the main trunk.

29. *The Surgical Treatment of Certain Cases of Acute Inflammation of the Veins.*—Mr. HENRY LEE read (May 9, 1865) a paper on this subject before the Royal Medical and Chirurgical Society.

He stated that in Mr. ARNOTT's paper on "Inflammation of the Veins," published in the fifteenth volume of the *Medico-Chirurgical Transactions*, he had drawn the inference that the dangerous consequences of phlebitis bear no direct relation to the extent of the vein which is inflamed. He had there proved, by an excellent collection of cases, and by his observations on those cases, that death in cases of phlebitis does not take place from the inflammation extending to the heart, but from the entrance of some morbid product into the general circulation (pp. 44 and 61). In a paper by Mr. Lee, published in the thirty-fifth volume of the Society's *Transactions*, he had endeavoured to show that the material which obstructs the cavities of veins in cases of phlebitis is derived from the blood itself, and is not in the early stages of the disease a secretion from the lining membrane of the vessels; that the veins become extensively inflamed only in cases where coagula have previously formed; and that the purulent-looking fluid, often found in the cavities of inflamed veins, is derived from the changes which, under the circumstances, take place in the fibrin of the blood. The distinction which he wished to establish between the process by means of which fibrin is deposited from the blood, and that by which lymph is secreted from the lining membrane of a vein, was of primary importance, not only with regard to the pathology of this class of diseases, but also with regard to their surgical treatment; for it must be obvious that if the material, which occupies the cavities of the vessels in cases of phlebitis were secreted by the inner coats of the veins, it would adhere firmly to that membrane, and would be found lining equally the whole circumference. It would not be displaced by the force of the circulation, nor by any other mechanical means likely to be employed. Moreover, the morbid process would extend by continuity of action, and would not be arrested by any surgical interference. If, on the other hand, the material found in the veins were derived from the blood, it might be expected to adhere slightly only to the walls of the vessels, to be attached to one part only of those walls, and to be removed easily by any mechanical force. It would be deposited in uncertain quantity, and at irregular intervals, leaving portions of the lining