A CASE

OF

ANEURISM

OF THE

GLUTÆAL ARTERY,

CURED BY TYING THE INTERNAL ILIAC.

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UNTIL very lately, surgeons were unacquainted with the use of the inosculating vessels, and dreaded to tie even the smaller arteries. So completely were they fettered by the fear of gangrene, that a person with aneurism of the brachial, or popliteal artery, had no alternative, but to submit to amputation, or die from hemorrhage; and those who had the disease in the larger vessels were allowed to perish, without even an attempt being made to save them.

To the surgeons of the present day we are indebted for the improvements in this part of the profession. Even the celebrated Cheselden doubted the surgeon who told him, that he had tied with success the brachial artery. Bromfield stigmatized the tying the femoral artery, as an extravagant proposition. Dr. Monro, who was an excellent anatomist, says, that it is "dangerous to trust to common anastomosis round the elbow:" and intimates, that the success in tying the brachial artery, was chiefly owing to a lusus naturæ. He little expected that, in a few years, surgeons, without any assistance from these irregularities of nature, would tie not only the brachial, but the femoral, the axillary, the subclavian, the carotid, and the great iliac arteries.

These are the most splendid improvements in modern surgery; improvements for which we are indebted to Abernethy, A. Cooper, Lynn*, Scarpa,

* A surgeon in attempting to extirpate the parotid gland, opened so many vessels about the angle of the jaw, that the patient was in danger of expiring from hemorrhage. Mr. Lynn, who was present, prevented the bleeding, by tying the trunk of the carotid artery on the fore part of the neck. This occurred in the Westminster Hospital 15 years ago. I am sorry to add, that the case was not successful. The person died three weeks after the operation. Mr. Abernethy tied this artery when accidentally wounded, but the patient died of inflammation of the brain. Mr. A. Cooper, was the first who ventured to tie the carotid artery for aneurism of this vessel. Mr. Travers was the second who tied

and particularly to Mr. John Bell, who led the way to these operations by his correct and animated description of the powers of the inosculating arteries.

The large arteries are more vascular, and more subject to disease than the smaller vessels. The glutæal is a large artery; from its situation liable to wounds, from its size subject to aneurism. It is true, we have seldom heard of aneurism of the glutæal artery; not that the disease has never existed; but because it has hitherto been fatal; and the history of almost every unsuccessful case is quietly inurned with the unfortunate patient.

Dr. Jeffray, of Glasgow, was consulted in a case where the glutæal artery had been wounded. He urged the propriety of tying the vessel, where it had been injured. This sensible advice was rejected, other surgeons were consulted; and when the friends at last consented to have the artery tied, it was too late: while Dr. J. was preparing for the operation, the tumor burst; and the young man in a few moments expired.

One of the first surgeons in London had a patient with glutæal aneurism. The tumor was large; allowed to burst; and the person bled to death.

tied it successfully, since which it has been tied with success by Mr. Dalrymple, of Norwich; and Mr. John Bell.

I sincerely trust that the following case may be the means of preventing such an occurrence in future.

Maila, a negro woman, from the Bambara country in Africa, was imported as a slave into the West Indies, in the year 1790. She was purchased for the estate Enfield Green; now the property of the heirs of Patrick Ferrall, Esq. I saw her first in the beginning of December, 1812. She had a tumor on the left hip, over the sciatic notch. It was nearly as large as a child's head, and pulsating very strongly. She could assign no cause for the disease. It had commenced about nine months before, with slight pain in the part: and had gradually increased to its present size. She was now much reduced, in great misery, and ready to submit to any operation.

Dr. Lang, the medical attendant on the estate, had seen this woman soon after the commencement of the disease, even then it was too distinctly marked to be mistaken. Dr. Lang is a good surgeon; the friend and late pupil of Mr. J. Bell. He did in this case, what most surgeons would have done: pronounced the disease incurable. The woman was returned from the sick-house to her hut, there to submit to her fate: to pass a few weeks of miserable existence; and then to expire from hemorrhage.

I was not ignorant that Mr. J. Bell had tied

the glutæal artery. The two cases, however, were very different. The one was an aneurism; the other, a wounded artery. The one was a constitutional disease; and the other a local affection. This is no idle or useless distinction. A surgeon may with propriety cut down upon a wounded artery, and tie it where it has been injured. John Hunter, Pott, and many others, learnt from dear bought experience, the danger of operating immediately above an aneurismal tumor*.

Compression, which may be useful in some situations, cannot be applied in aneurism of the glutæal artery. There is but one chance of curing the disease, and that is by tying the internal iliac artery, within the pelvis.

Mr. Abernethy, Mr. A. Cooper, Mr. Freer, and some others, had tied with success the external iliac: I had tied the internal on the dead body, and believed that it might be done with safety on the living. When Dr. Lang, and my friend Dr. Van Brackle, met me in consultation, on the case of Maila, I proposed this operation; they consented.

On the 27th December 1812, I tied the artery in the presence of Dr. Lang, Dr. Van Brackle, Mr. Nelthropp, and Mr. Ford, the manager of the estate.

* It was this which gave origin to Mr. Hunter's grand improvement of tying the artery at a distance from the disease.

An incision about five inches in length, was made on the left side, in the lower and lateral part of the abdomen, parallel with the epigastric artery; and nearly half an inch on the outer side of it. The skin, the superficial fascia, and the three thin abdominal muscles, were successively divided; the peritoneum was separated from its loose connexion with the iliacus internus and psoas magnus; —it was then turned almost directly inwards, in a direction from the anterior superior spinous process of the ilium, to the division of the common iliac artery. In the cavity which I had now made, I felt for the internal iliac, insinuated the point of my fore-finger behind it, and then pressed the artery betwixt my finger and thumb. Dr. Lang now felt the aneurism behind; the pulsation had entirely ceased, and the tumor was disappearing. I examined the vessel in the pelvis: it was healthy and free from its neighbouring connexions; I then passed a ligature behind the artery, and tied it about half an inch from its origin. The tumor disappeared almost immediately after the operation, and the wound healed kindly. About the end of the third week, the ligature came away, and in six weeks the woman was perfectly well.

When I was about to leave the West Indies, in the early part of May last, I called upon this woman; she was then in good health, grateful for her recovery, expressing her astonishment that so dreadful a disease, on the back part of her body,

could be cured by making a wound in a part directly opposite.

This I believe is the first time that the internal iliac artery has been tied; the operation was neither very difficult nor very tedious. The woman did not complain of much pain; and I am certain she did not lose one ounce of blood.

I found no difficulty in avoiding the ureter: when I turned the peritoneum inwards, the ureter followed it. Had it remained over the artery, I could easily have turned it aside with my finger.

In performing this operation, I used only one ligature, because I believe that one ligature is perfectly sufficient for any artery. When we expose the iliac or any other great vessel, it is necessary to separate the artery from its surrounding connexions, only for a small space: a space no larger than just sufficient to allow the insinuation of the fore-finger, behind it. With the point of this finger we raise the vessel, and examine it: with a small blunt or aneurism needle, pass a ligature behind the artery, draw it to the upper part of the vessel, where it is surrounded by its cellular substance, nourished by its vasa vasorum; and tie it there. When we tighten the ligature, the opposite surfaces of the internal coat are brought into immediate contact; the ligature wounds the internal coat and thus excites inflammation. When

the internal surfaces are inflamed, and in contact, they adhere to each other, and then only is the patient out of danger.

It often happens in aneurism, that the artery, even at a distance from the tumor, is so completely ossified, that it will not inflame, and consequently not adhere; the ligature soon comes away, and is followed by a secondary hemorrhage.

Though we have a ligature beneath this part, it certainly can do no good; it cannot prevent the hemorrhage, as the bleeding is nearer to the heart.

The vile practice of insulating a large portion of an artery, and then only half tying it; the use of the four ligatures, and other unhappy contrivances, have been very justly and very happily criticised by Mr. John Bell;—but even Mr. J. Bell uses one ligature too many: he, like Mr. Abernethy, and many surgeons of the present day, ties the artery with two ligatures, and cuts it across betwixt them.

By placing the artery in the same situation, that it is in on the face of a stump, it was expected that secondary hemorrhage would occur as seldom after the operation for aneurism, as it does after amputation; the circumstances, however, are very different: in cases which require amputation, though

every other part of the limb may be diseased, the arteries are generally healthy; and when properly tied they seldom bleed. In aneurism, though every other part of the system is healthy, the arteries are generally diseased. It is this diseased state, this premature old age of the arterial system, which is the cause of aneurism, and of the hemorrhage which is so frequent and so troublesome after the operation.

If hemorrhage after the operation for aneurism is produced, not by the position of the artery, but by the diseased state of the arterial system, the double ligature can do no good. If an artery is diseased, the lower ligature cannot make it healthy: though it has retracted, it will not adhere; though we have two ligatures, they cannot prevent the secondary hemorrhage.

The surgeon who uses the two ligatures gives himself unnecessary trouble, his patient unnecessary pain, and leaves three extraneous bodies in the wound, while one only is necessary; the lower ligature insulates a portion of the artery; this insulated part remains in the wound as a foreign substance, so does the lower ligature; in truth this lower ligature can do no good by remaining in the wound; irritating and keeping it open, it does much mischief.

Even in aneurism, the artery where we operate is

sometimes healthy: when such an artery is properly tied we have nothing to fear from secondary hemorrhage; its cavity is soon obliterated by adhesion; and the natural position of the vessel is perhaps more favourable for this process, than when the artery is retracted*.

This was the only case of aneurism that I either saw or heard of during a residence of nearly four years in the West Indies. In St. Croix, St. Vincent's, St. Kitt's, and some other islands, so seldom is it met with, that I know practitioners, who, during thirty years' extensive practice, have never seen a case of aneurism, stone, or any other disease produced by the deposition of calcareous matter.

What is aneurism that it should be so frequently met with in some countries, so seldom in others? Is it a disease produced by "violent passions of the mind—the improper use of spirituous liquors—the excessive use of mercury—too much exercise—blows, and lifting heavy burdens?" If it is brought on by these causes, why is it not met with indiscriminately all over the world? Why are the ar-

* I express my disapprobation of the double ligature, because I believe it to be a bad practice, a practice that is radically wrong, and has nothing to recommend it but the respectable names of Mr. John Bell, Mr. Abernethy, Mr. A. Cooper, &c. No one can value these gentlemen more highly than I do; every surgeon must feel indebted to them for the good they have done to the profession. As an individual I feel grateful to these gentlemen for much personal kindness.

teries of the West Indian so free from aneurism, and those of the European so subject to the disease?

The arteries of the European, who has been seasoned to the West Indies, of the Creole and the Negro, are as subject to the above causes as the arteries of the European, but they are not liable to aneurism.

It is not a disease "invariably formed by the rupture of the internal coats of an artery." The arteries of the West Indian are free from aneurism, though as subject as the arteries of the European to every kind of accident which might tear or rupture their internal coats.

When we pull a ligature in such a manner as to rupture the internal coats, and then withdraw the ligature, the artery does not become aneurismal. On the contrary, it is frequently followed by inflammation, adhesion and obliteration of the vessel. Such a rupture of the internal coats may cure an aneurism, but cannot produce it.

Suddenly extending the joints, severe blows, or violent spasms of a muscle, may occasionally rupture an artery, particularly if the vessel has been weakened by ossification, or any other disease. Such an accident is seldom met with, and when it does occur, it is not aneurism, but a ruptured ar-

tery; the swelling forms immediately after the accident; the tumor seldom pulsates; and is generally diffused.

The history of aneurism is very different from all this. It is a constitutional disease, and comes on slowly. Its immediate cause, in most cases, is the deposition of a foreign substance in the internal coats of the artery;—" a vile calcareous matter," which, under particular circumstances, produces irritation, inflammation, ulceration, and complete destruction of a part of the internal coats. Whilst this disease is going on in the internal surface, the external coats are beginning to dilate; in proportion as they dilate, they become thinner; and it is now that nature, as if aware of the danger, begins to strengthen the artery by the deposition of a new formed substance—a substance which so completely resembles the original coats, that the one has almost uniformly been mistaken for the other.

In Glasgow, under the auspices of the late Mr. Allan Burns, I had many opportunities of examining this diseased state of the arterial system. In subjects who were upwards of thirty, I almost uniformly found the arteries ossified, brittle, and so weak, that on attempting to inject them minutely, they almost invariably burst.

The farther we advance in life, the more we are

subject to this diseased state of the arterial system, and its attendant aneurism. We never meet with it in children; seldom in youth; but very often in old age. It generally commences about the age of 25, or 30; previous to this period the arteries are healthy, and not subject to aneurism.

In the West Indies, I have examined the arteries of some aged bodies, and have uniformly found them healthy, free from ossification, and every other kind of disease. Such arteries are not subject to aneurism; and when we tie them properly in wounds or in amputations, we are never troubled with secondary hemorrhage.

London,
Sept. 21, 1814.