phytogenesis. In the adult, Riolan maintained them to be "inutiles, tamquam vietas et marcidas, instar vasorum umbilicalium; adeoque usum querendum in foetu".

The unfortunate term "gland" has led some writers to imagine that a "secretion" might be retained in the blood when their supposed function is injured, and others to look for leukaemia: a condition which, I believe, never exists in Addison's disease. They are, we know, glands in no other sense than is the glans penis. They have neither the structure of a secreting gland, nor that of a lymph-gland; and, whatever the term "blood-vascular gland" may mean, they have certainly no connection in structure, physiology, or disease with the thymus, the spleen, or other lymphatic structures. Like the thyroid and the pituitary body, they are probably rudimentary organs, survivals of what once performed functions in the individual or the race. Their importance depends upon the mischief they may do through the abundant nerves and ganglia they contain. If rapidly and completely destroyed, as by cancer, or if only chemically altered, as by waxy degeneration, no symptoms ensue; but a chronic inflammatory change, leading to caseous degeneration and contraction, keeps up a continued irritation, which, sooner or later, produces the various neuroses that make up the symptoms of the disease.

CASE OF OVARIOTOMY.

BY GEORGE BUCHANAN, M.A., M.D.,

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Reported by Dr. FARQUHARSON, Coatbridge.

MRS. R. of Culhill, near Coatbridge, aged 40, had given birth to seven children; no miscarriages. Her previous health and family history were good. Three years ago, she was treated for what the doctor designated inflammation of the liver, from which she suffered very acutely. Eleven days after the commencement of the attack, she was delivered of a child; labour, she believed, being brought on by the application externally of hot fomentations to the region of the liver, violent movements of child having been felt at that time. However, she recovered from this illness completely.

In 1872, she felt a lump about the size of a fist, two inches above Poupart's ligament, on the left side. It was so movable, that she could carry it across to the corresponding place on the opposite side. For this she consulted Dr. Simpson of Edinburgh, who diagnosed that it was an ovarian tumour. It gradually increased in size, became fixed and fluctuating, and displaced the viscera. From its great bulk and weight, it was a source of great inconvenience and discomfort, and Dr. Farquharson thought it proper to tap it in the usual way on January 7th, 1873. The fluid that was drawn measured ten Scotch pints. She experienced a little faintness, but was much relieved afterwards. Again she was tapped on July 27th, when the fluid measured nine pints. During all this time menstruation was regular, though a little scanty.

Dr. Buchanan operated on November 21st. She then measured fifty-six inches round the abdomen at the umbilicus. She was very emaciated, and suffered much from the bulk of the tumour. The longitudinal incision measured nearly nine inches, through which, after separating adhesions, the tumour was extracted. It weighed 10¾ lbs., and was multilocular; the largest cyst containing fluid of a pale straw colour, the smaller ones a viscid material.

The patient did well during the operation, which occupied three-quarters of an hour, commencing at 1 P.M. on November 21st. At 3 P.M., her pulse was 109; at 3.30 P.M., 106; at 5.30 P.M., 108; at 12.45 A.M., 98; at 3.15 A.M., 108; and so it remained till the night of November 22nd.

On the night of the 21st she complained of pain in the right shoulder. At 12.30 A.M., her urine was drawn off, which measured four ounces, and was high coloured. At 5.30 A.M., she got an opiate enema, which was repeated three times during the next day. Ice only was given. She complained of little pain.

November 23rd, 10.30 P.M. Pulse 114. The urine was drawn off; it measured five ounces. The skin was cool; the tongue reddish and gently moist; thirst great. She had snatches of sleep from 3 P.M. Ice was continued. Pain was felt occasionally in the right shoulder. The left leg was powerless. She complained of pain in the bowels and round the loins from flatulence. There was no vomiting or sickness. She had lain in one position till now, when the pillows were turned. An enema of tincture of opium was repeated at 7 P.M. The patient had a cheerful look, and seemed in good spirits.

November 24th, 8 A.M. The urine was drawn off; it measured three

ounces, and was paler than previously. Menstruation had appeared. She passed some wind, which afforded much relief. She had not the slightest pain. Last night she slept three-fourths of an hour, which was the longest sleep she had had. Thirst was still great; pulse 102. She was ordered a teaspoonful of milk with ice every hour. She had a sensation of hunger to-day, having had no food or brandy from 2.30 P.M. of the 21st till 9 A.M. of November 24th. The skin was always moderately warm. There was no excitement.—2.30 P.M. Pulse 96. She passed more wind. She could move the paralysed limb freely. She complained of hunger, and was ordered a tablespoonful of milk with ice every hour. The other symptoms were unchanged. The urine measured seven ounces.—10.30 P.M. The urine measured eight ounces. She was restless; pulse 114; no fever. She was still hungry. The flatulency was annoying, otherwise she was well and cheerful.

November 25th, 8 A.M. She slept one hour last night, which was the longest sleep as yet. A drachm of tincture of opium was given at bedtime. The urine measured nine ounces. She was still hungry. There was a slight smell from the wound. Skin natural; pulse 90.—5 P.M. Urine twelve ounces; pulse 96. She was ordered a tablespoonful of chicken-soup every hour.—12 P.M. Urine eight ounces; pulse 96. The opiate was repeated. She had no pain, but felt rather chilly.

November 26th, 7 A.M. Urine eight ounces.—2 P.M. Urine seven ounces; pulse 80. The wound was dressed; it had a slight smell. She was still hungry. She passed more wind. There was a tingling felt in the left leg. She felt happy and comfortable. The wound looked well. There was very little grumous pus. Slight tenderness was felt over the left iliac region.—10.30 P.M. Urine eleven ounces; pulse 78. Milk and soup were continued, with ice. The opiate was repeated. She was very anxious for food. The symptoms were unchanged.

November 27th, 1.30 P.M. Pulse 90. Iced milk was given every hour; and she had a cup of beef-tea with a half slice of bread toasted. Tea and toast at 5 P.M.; after which she slept for half an hour, then feeling very comfortable.—10 P.M. She had no pain; tongue clean. There was no thirst to-day. She had improved much on beef-tea; and was ordered porridge and milk in the morning. The urine was natural.

November 28th, 1.30 P.M. She enjoyed the porridge, which was followed by a cup of tea and a little toast an hour afterwards. Beef-tea and toast were given at 2 P.M., and tea and toast in the evening, milk and ice being given between. Pulse 84. She felt stronger, very well and comfortable. The urine still required to be drawn off, and was quite natural.

November 29th, 1.30 P.M. The ice was stopped; pulse 84. She felt stronger. The food was similar to yesterday's, only increased in quantity. The urine was the same.

November 30th, 1 P.M. Pulse 90. She still enjoyed food, and felt well. She passed urine herself to-day for the first time; it measured four ounces. The wound was dressed; a small quantity of dark fluid was found around the clamp. The wound was healed; the edges at the clamp were healthy and granulating. Carbolic oil dressing was used. The fluid evidently originated from the decaying pedicle. The appearance of the abdomen was natural, except that the part was drawn in where the clamp was attached. She had now no pain on being lifted. The tongue was slightly furred. The food was as yesterday, but increased in quantity. She had no thirst.

December 1st, 2 P.M. Urine normal; pulse 90. The wound was dressed. The discharge around the clamp was very slight. The patient felt very well. She was ordered a mutton-chop for dinner.

December 3rd. There was slight pain in the wound, but she felt stronger.

December 4th. The bowels were moved freely. She had slight tenesmus afterwards.

December 5th. The tenesmus continued. She was ordered a drachm of castor-oil. There was very little discharge from the clamp, but a little more pain when touched.

December 6th. The patient was quite well to-day. The bowels were moved without oil; pulse 84. The wound, which was healthy, was dressed. She felt pain on lying on the left side.

December 7th. The dose of castor-oil was repeated; the bowels were freely moved; she felt much lighter; pulse 96, a little weak. Her appetite was good; she slept well; she moved in bed with considerable freedom.

December 8th. The clamp came away; a circular sore was left, fully half an inch in diameter, healthy. The retraction of the abdomen was not so great. Pulse 96. She did not require an opiate last night. She slept well, and felt very hungry in the morning.

December 9th. The wound was dressed; it looked healthy; there was very little pus. The bowels were moved in the morning. She was taking more solid food.

From December 10th to the 17th the wound gradually became smaller, and the depression was less marked. One ligature was removed. On the 13th she sat up for the first time, and on the 15th port wine was commenced.

The patient completely recovered, became pregnant, and was safely delivered of a son on April 6th, 1876, the labour being natural. Nothing at all was remarkable during the period of gestation.

THE STATE OF THE ARTERIES IN BRIGHT'S DISEASE.

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THE ophthalmoscope is of service to the physician, among other uses, because it enables him to see the termination of a minute artery and vein, and to gain direct evidence of their condition, such as is to be obtained in no other way. When the retina is free from local disease, there is no reason to believe that the retinal artery and vein differ in their condition from other arteries and veins of the same size, and, therefore, any marked change in their state, apart from cerebral or ocular disease, may be taken as evidence of a similar change throughout the vascular system.

The object of the following paper is to bring forward certain facts concerning the retinal vessels in Bright's disease, and I believe the facts warrant this conclusion; that, in chronic Bright's disease, the arteries of the retina are sometimes of normal size and sometimes very distinctly lessened in size; that this diminution in size depends upon contraction; and that this visible contraction stands, as a rule, in direct proportion to the tension of the arterial blood, as measured by the incompressibility of the radial pulse.

A few words are necessary as to the manner in which the size of the arteries is estimated. Their condition can only be seen under considerable magnifying power. Examination by the indirect method does not, as a rule, give sufficient enlargement unless a lens of very long focus be employed, as in Carter's demonstrating ophthalmoscope. Now and then, if the eye be hypermetropic and the vessels very distinct, the indirect examination with a lens of three or four-inch focus will suffice; but, as a rule, it is necessary to employ the direct method of examination. If the pupil be small, it must be dilated with atropine, since it is often necessary to trace the vessels for some distance from the disc.

There is unfortunately no method of applying any gauge to the vessels; their size must be estimated by the eye. The change in size may be judged of absolutely or by comparison with the veins. For an absolute estimate of their size, familiarity with their normal appearance under direct examination is, of course, necessary. Further, as the degree of magnification varies with the refractive power of the eyeball, this must be allowed for. It may generally be estimated by noticing the apparent size of the disc.

The change in the size of the arteries is frequently such as to be recognised at once; there is no need for comparison with the veins. The reduction in size may be so considerable, that even the primary branches of the central artery are so small that their double contour is recognised with difficulty, and it may be unrecognisable even by direct examination, the arteries being, as in one example I have to show, visible only as lines.

In other cases where the diminution in size is slighter, it can be most conveniently estimated by comparing the arteries with the veins. The distribution of the arteries and veins corresponds approximately, not exactly. Sometimes two arteries accompany one vein, sometimes one vein corresponds with two arteries. But in each eye there are usually some single branches of arteries and veins which have an identical course and distribution, run side by side, and are available for comparison. When this is the case, it will be found that, as a rule, the width of the artery is about two-thirds or three-quarters that of the vein. When the artery bears less proportion to the vein than this, it is usually due to one of three causes: 1. General venous distension, as in cyanosis; 2. Impediment at the sclerotic ring, by which the entrance of blood into the arteries is impeded, and its exit from the veins is also hindered, in which case the arteries are narrow and the veins distended, as in certain stages of optic neuritis; 3. Contraction of the arteries. In the two former cases, the veins are, of course, abnormally large, and their abnormal size is generally easy of recognition. In the latter case, the veins may be normal in size or may be smaller than natural. If they be smaller, the diminished proportionate size of the arteries is of still greater significance. It is neces-

sary, therefore, to be familiar with the normal size of the veins, in order to estimate the size of the arteries by comparison. From their darker colour, their size is easily noted, and the size of the arteries is readily estimated by comparison.

The arteries may be of normal size upon the optic disc, and yet present very marked reduction in size on the retina, a little distance from the disc. An artery may leave the disc beside a vein to which it bears its normal proportion, and, after a little course, without giving off any visible branch, may diminish to one-half or one-third of the size of its accompanying vein.

From what has been said, it will be obvious that these changes in the relative size of the vessels possess most significance when the retina has not undergone the special changes to which it is liable in chronic Bright's disease. Exudation within the sclerotic ring, compressing the vessels, alters their relative and absolute dimension, as I have stated. This is well seen in ordinary optic neuritis. I believe that it is rare in Bright's disease for the neuritic change to be sufficient to produce this effect. Certainly, in cases of albuminuric retinitis, the actual contraction may often be recognised as something quite out of proportion to the retinal change.

As I have said, the rule that, when the arterial tension is increased, the retinal arteries may be seen to be contracted, is general, but not universal. This is in accordance with what might be expected from the various conditions which are known to influence, on the one hand, blood-tension, and, on the other, arterial contraction. Moreover, local influences may cause local modifications. The most notable exceptions to the rule, which I have met with, have been in cases of local retinal disease.

The following are some of the facts on which the conclusions described have been based. The incompressibility of the radial pulse was employed as the estimate of arterial tension. When practicable, my own estimate has been corroborated by a sphygmographic tracing, or by an independent opinion.

On opposite sides of a ward in University College Hospital, there recently lay two patients (under the care of Dr. Reynolds), whose cases illustrated in the most marked manner the relation of blood-tension and the state of the retinal arteries. The one case was that of a man, fifty-eight years of age, whose illness had commenced gradually, with shortness of breath and weakness, two years before. Slight oedema of the legs had existed for only one month before his admission. His urine contained one-third of albumen; had a specific gravity of from 1,005 to 1,008, and contained numerous casts, granular and hyaline, with some degenerated epithelium, both free and within the casts. His retinae were normal in appearance; the arteries of full size, presenting not the slightest evidence of contrac-

Fig. 1.

tion. His pulse was full, but very soft and compressible. There was no evidence of cardiac change. The other case was that of a man, aged 46, whose symptoms resembled those of the first. They began