easy lest this should betoken latent mischief, but soon found that my cases of phthisis, heart and lung disease, were not in excessive proportion. This year I have kept an exact account of the number examined, the age and trade of each, with the proportion of them who were subjects of this sound. These I have put into the form of a table as below. No one was less than seventeen or more than forty-four years of age.

Trade.	No.	Right.	Left.	Both.
Porters ...	4	1	—	1
Painters ...	19	1	1	2
Photographer ...	1	—	—	—
Clerks ...	5	—	—	—
Domestic servants ...	2	—	—	1
Farriers ...	4	—	—	2
Coach, cab, and carmen ...	16	2	3	2
Carpenters ...	9	1	1	1
Gravedigger ...	1	—	1	—
Toll collector ...	1	—	1	—
Butchers ...	3	—	1	—
Masons, brick- layers, and plasterers ...	10	—	1	1
Gold refiner ...	1	—	—	—
Shopmen ...	6	—	—	—
Shoemakers ...	5	—	—	1
Smiths ...	7	—	3	—
Labourers ...	10	1	—	—
Tailors ...	3	—	1	—
Horsekeepers ...	4	1	—	—
Gardener ...	1	—	—	—
Sawyers ...	2	—	—	—
Police ...	2	—	—	—
Plumbers &c. ...	6	—	3	1
French polishers ...	2	—	—	1
Hydraulic en- gine-man ...	1	—	—	—
Unknown ...	4	—	1	—
Total ...	129	7	17	13

From this table it will be seen that of 129 men of the callings specified, 37, or more than one-fourth, were subjects of this murmur; nevertheless they were all in the enjoyment of perfect health, except for a hernia or some deformity of the extremities perhaps. I shall make no attempt here to speculate as to the effect of different callings in causing subclavian murmur, interesting as the question is, being fully aware that a vastly larger number of cases must be accumulated before such an attempt can be safely made.

The entire value, in a practical point of view, of subclavian murmur as an index of disease, depends upon its causation. If, then, I can show that it may arise from natural causes, and is compatible with the enjoyment of perfect health in a large number of persons, I shall have contributed towards a just estimate of its value as a sign of disease.

That the murmur is of arterial origin no one will doubt who has read Dr. B. W. Richardson's admirable essay on it in his "Asclepiad." I shall therefore take this as proved. The causes of the sound in health I believe to be several; of two at least I have no doubt—viz., (1) pressure exerted on the artery by a subclavian muscle enlarged by any cause; and (2) by diminution of its calibre from below by elevation of the first rib. The former of these causes is espoused by Dr. Richardson in his essay, where, if I understand him aright, he mentions no other origin for the murmur in health; the second is here advocated, as far as I know, for the first time. While admitting freely my belief that many instances of the sound have their origin in pressure by the subclavian muscle, I am of opinion that another series of them is caused by elevation of the first rib; and this view is supported by the following considerations:—1. That in many cases the murmur is heard only during inspiration and holding of full breath, and that in others it is greatly increased at those times, though continually present in a less degree. 2. That this vessel rests on the surface of the first rib, which is usually grooved for it, indicating very close proximity; an elevation of this bone, then, by the scalenus anticus or otherwise (as by holding out the arm), will trench upon the calibre of the artery, and give rise to the murmur in conformity with the well-known law; when the rib falls again, the sound falls with it. The minute and constantly occurring irregularities in the distribution of arteries and other parts will naturally and easily account for the occurrence of the murmur in some individuals only. 3. That the murmur is much

more frequently found on the left side than on the right, as all observers unite in saying. This circumstance appears to me to be owing to the different courses which the two arteries pursue with reference to the first rib; the left, arising deep in the thorax, passes up behind and hooks over the corresponding rib, and is thus much more likely to feel the effect on its calibre of an upward movement of that bone than the right subclavian, which follows a nearly horizontal course from the innominate.

That some other cause besides increased volume of the subclavian muscle operates in producing the murmur is evident from the fact of its more frequent occurrence in the *left* artery, whereas the *right* muscle is the strongest worker. Thus, in the above list, the three smiths presenting the sound all have it on the left side; the two sawyers examined had it not at all, yet this very trade—that of sawing—is specified by the advocates of the subclavian muscle as predisposing; and of nine carpenters, only three presented it. Again, there is no doubt that, in most cases, the action of raising the arm to a right angle with the trunk markedly increases the sound, and this is claimed by the advocates of the muscle as establishing their view; but I submit that it is equally calculated to prove that the elevation of the first rib is the cause, for the clavicle and it are so firmly united by the costo-clavicular and coraco-clavicular ligaments that the former cannot be raised without the latter partaking in the upward movement. The subclavian muscle itself also contributes to move the rib upwards; for, in the case contemplated, it takes action from the more fixed point (the clavicle) to the less fixed one (the rib).

In those cases where the murmur is heard to be increased during inspiration, or is only then present, a little caution is required in order to discriminate duly between the augmented murmur and the mixture of the natural vesicular with the arterial sound. The risk, too, of recording as subclavian murmur sounds produced by one's own stethoscope must be remembered, but can easily be avoided by searching for the murmur chiefly beneath the centre of the clavicle: it is only in the outer part of its course, where the artery emerges from beneath the bone, that I have been able to produce the sound at will. Were any confirmation wanted of the fact that the murmur is arterial, it would be found in the circumstance that it may often be heard rapidly increasing in intensity while nervousness under a somewhat protracted examination makes the heart beat fast and strongly.

I cannot but think that a careful consideration of the figures and facts given above will satisfy most that in a working man free from discoverable disorder this murmur is wholly untrustworthy as an evidence of disease. I studiously confine my assertion to the case of working men, because among them my observations have been made. As to the richer classes the medical officers of Life Insurance Companies could make highly interesting observations. Of the value of subclavian murmur as a diagnostic help when associated with other evidences of disease no one is more conscious than I am; but this forms no part of the object I have proposed to myself in this paper.

I do not conceive that any apology is due for recording thus the results of observations on the subclavian murmur, though made on perfectly healthy men; for I am fully persuaded that a large and productive field for observation lies before us in the investigation of a number of vital phenomena occupying the debatable ground between health and disease.

Upper Southwick-street, Hyde-park, March, 1864.

EXTENSIVE FIBRINOUS COAGULA IN THE HEART AND LARGE VESSELS DIAGNOSED PREVIOUS TO DEATH.

BY CHARLES F. POLLARD, Esq., M.R.C.S.

THE following case, belonging to a class which is exciting at the present moment considerable attention, may, perhaps, prove interesting to the profession:—

Miss S. C.—, aged thirteen years, from birth of a very feeble constitution. During the last six months has been much more delicate, losing her animal spirits, and being exhausted by the slightest fatigue; complaining frequently of shortness of breath, and exhibiting distressing somnolence, so much so that her parent had the greatest difficulty in keeping her awake unless actively employed. At the commencement of February, whilst on a visit to a friend, she was attacked with mild chicken-pox, which went through its stages most favourably

till the seventh day, when she complained of "spasm of the chest," difficulty of breathing, and extreme languor, the pulse being very feeble, the extremities cold, with slight sickness, and a short cough. By the application of a large mustard poultice, and the administration of ammonia and brandy, she rallied considerably, and in the evening was much improved; but on visiting her early the following morning, I found her in a most exhausted state, all but pulseless, with cold clammy perspiration, short, quick breathing, and extreme restlessness. Dr. Cotton visited her with me a few hours afterwards, and carefully examined her chest, and after a description of the previous symptoms, he diagnosed that the patient was suffering from clots on the left side of the heart, and possibly also in the larger vessels. Dr. Cotton has kindly favoured me with his reasons for having arrived at this conclusion. He says, "On examination I found the heart's sounds very confused and indistinct, and there was a murmur at the apex, apparently with the first sound, of a peculiar rough character, not very loud, and variable both in its quality and intensity. These circumstances (he adds), combined with the pulseless condition of the wrist, and the sinking state of the child, led me to conclude that there were clots in the heart and great vessels." Professor Partridge saw the patient a few hours afterwards, and coincided with the view Dr. Cotton had expressed. Stimulants were persevered in, but the same evening she died.

Subjoined is the result of the post-mortem examination fourteen hours afterwards, and in which I was kindly assisted by Dr. Godwin.

On opening the chest the lungs appeared somewhat anæmic, and there was serous effusion to a slight extent on both sides of the pleura. The pericardium was rough, both on its parietal and visceral portions, from a deposit of recent lymph. On removing the lungs and heart, a clot (having the appearance of black currant jelly) was seen protruding from the inferior vena cava, and was drawn out with perfect ease to the extent of eighteen or twenty inches, forming a complete cast of the cava, both common iliaes, and extending on the right side almost to the femoral vein. The lungs were healthy, with the exception of a single deposit of tubercle, in the second stage, in the substance of the lower border of the upper lobe of the right lung. The heart was considerably enlarged, and the clot in the inferior vena cava was continued into the right auricle, which was almost completely filled with a firm yellow clot of fibrin, apparently of not very recent formation, as it was firmly attached to the walls of the auricle, more particularly so in the auricular appendage. The same clot extended to the superior vena cava and the right ventricle, being continued into it by a more recent clot attached to another of the same fibrinous appearance which lined the ventricle. The pulmonary artery also contained a clot, blocking up the entrance, but not extending far into the vessel. The left auricle and ventricle were greatly distended by black semi-fluid blood, and the latter contained a smaller clot in the same decolorized state as those in the right chambers of the heart. The valves of the heart were perfectly healthy. The liver was enlarged to a considerable extent, but not otherwise diseased.

Brompton-crescent, March, 1864.

A Mirror

OF THE PRACTICE OF MEDICINE AND SURGERY IN THE HOSPITALS OF LONDON.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum, et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter eas comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LONDON HOSPITAL.

MENSTRUAL RETENTION FROM IMPERFORATE HYMEN, WITH DISTENSION OF ONE OF THE FALLOPIAN TUBES. CLINICAL REMARKS.

(Under the care of Mr. CURLING.)

THE following case is from the notes of Mr. James E. Adams, the dresser of the patient:—

Ellen G—, aged seventeen, a domestic servant, was ad-

mitted on Feb. 16th, 1864. States that up to five weeks before admission she had always enjoyed good health, but had never menstruated. About this time she began to feel shooting pains above the pubes, and at the same time noticed a tumour in the lower part of the abdomen.

On admission she was pale and weak, and complained of great pain in the abdomen, accompanied with difficulty in micturition and defecation, the bowels only acting once in two or three days with medicine. Dr. Barnes saw the patient with Mr. Curling. On examination, the hymen was found imperforate, thickened, and forming a tense, elastic projection between the labia. A tumour was felt in the hypogastric region. It was of an elongated form, and very movable. On passing the finger into the rectum, a large tense swelling in front projected into the bowel, and almost blocked up the passage. She had considerable difficulty in micturition, and had suffered from retention of urine two or three times, and been relieved with a catheter.

As the symptoms were obviously dependent on retention of the menses, it was determined to relieve this by opening the hymen, which was done the next day by Mr. Curling, who excised a circular portion of the thickened membrane. The incision was followed by a copious flow of a dark grumous fluid, like pale treacle, which continued to ooze away for several days. On examination of the fluid with the microscope, the blood globules were found well preserved.

Feb. 20th.—Patient says she has been almost entirely relieved by the operation, but still feels some slight pains occasionally. The tumour in the abdomen has quite disappeared. Has had some castor oil, which relieved the bowels, and the appetite is much better.

24th.—Discharge has quite ceased, and she feels no pain. Mr. Curling, having ascertained by examination that there was a free aperture in the hymen, allowed her to leave the hospital on the 27th.

Mr. Curling, in some clinical remarks, stated that the case just related was not very common, but was one of considerable practical interest. The escape of the menstrual fluid being prevented, an accumulation takes place in the vagina, causing a tumour, which presses on the bladder and rectum, and seriously interferes with micturition and defecation. In this instance the duration of the retention was short, so that there was no symptom of any great enlargement of the uterus; but there was an oblong tumour loose in the abdomen, which was no doubt produced by distension of one of the Fallopian tubes. During his long connexion with the hospital a few cases of this affection had come under his notice. In 1836 a single woman, forty-two years of age, applied for relief as an out-patient on account of difficulty of menstruation; and on examination the hymen was found closed. It appeared that upwards of twenty years before she had been operated on by Sir Benjamin Brodie, who had discharged a large quantity of menstrual fluid. The part had since closed several times, and had been repeatedly lanced. The late Mr. John Scott, then surgeon to the hospital, managed to introduce a director without much force, and let out about ten ounces of a thick dark coloured fluid. The tendency to closure which had existed so long in this case showed him (Mr. Curling) the importance of making an opening that would remain patent; and in operating on E. G— he was particular to excise a portion of the thickened membrane, so as to ensure afterwards a permanent aperture.

Some years ago, a stout young woman, aged eighteen, was admitted into the hospital on account of supposed retention of urine. On attempting to pass a catheter, Mr. Curling discovered a tumour in the vagina pressing on the bladder, and which rendered the introduction of the instrument difficult. The bladder was nearly empty. The hymen was imperforate, and formed a large conical projection. The bowels were constipated, and the rectum was found to be encroached upon in front by a fluctuating tumour. The abdomen was much distended, and the patient complained of great pain in the back and loins, and was unable to sleep. He ascertained that she had never menstruated, and that these symptoms had been coming on gradually for several months. Mr. Curling punctured the thickened hymen with a lancet, when a thick reddish-brown fluid spirted out to some distance, and after excising a portion of the membranes upwards of two quarts of this fluid escaped. She was immediately relieved. A slight discharge ensued for a few days, and in a week she left the hospital.

Though he had not himself witnessed any serious result, it was right to state that the retention of the menstrual fluid was not free from danger. It has happened after the operation that fatal peritonitis has been set up. This is supposed to have