

## **Remarks on effusion of blood within the eyeball / by C. Lockhart Robertson.**

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REMARKS ON EFFUSION OF BLOOD  
WITHIN THE EYEBALL.

BY C. LOCKHART ROBERTSON, M.D.

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WHEN effusion of blood into the eye is the *result of injury*, it generally takes place into the aqueous humour. The iris and ciliary processes being the only textures in this part supplied with vessels conveying red blood, the effusion must evidently arise from one or other of these. When present in the anterior chamber only, it must proceed from the vessels on the anterior surface of the iris, and the effused blood may be equally diffused through the aqueous humour, tinging the whole of a deep red hue, or lie unmixed at the junction of the iris with the cornea.

On the other hand, when blood is effused from the ciliary processes or posterior surface of the iris, and presents itself in the anterior chamber also, it must have escaped in quantity sufficient to have enabled it to pass through the pupil, and, in such instances, the whole of the aqueous humour will be found uniformly tinged with the colouring matter of the blood. Such cases are of very rare occurrence, probably owing to the distention of the eyeball, caused by the effused blood acting mechanically as a means of compressing the blood-vessels, and arresting their discharge before such a result could take place.

When the effusion of blood into the posterior chamber is in smaller quantity, and does not reach the pupillary margin, it will of course escape observation.

The effusions of blood into the aqueous humour are usually absorbed in the course of three or four days, provided no inflammation supervene.



Although effusion of blood, *the result of injury*, generally takes place into the aqueous humour, it occasionally occurs into the cells of the vitreous humour. "I have met with cases," says Mr Travers,\* "in which hemorrhage into the vitreous cells occurred in consequence of a blow. Inflammation and swelling of the globe ensued, and the cornea, yielding to the pressure, sloughed, when the humour protruded gradually in the form of a large spongy mass, loaded with coagula of blood, so as forcibly to separate and distend the lids, and occupy the entire circle of the orbit. In these cases a severe pain is felt in the head and temple. The occasional hemorrhage is profuse. The pain is relieved by opiates, and the eyeball ultimately sinks with a total loss of figure. I have reason to believe that this disease, which at one period assumes much of the aspect and character of a fungus (*in its third stage*), has sometimes been mistaken for one of a malignant character." "I have also known," says the same author,† "blood effused into the cells of the vitreous humour within twelve hours after the operation of extraction, in consequence of straining upon the night-chair, which was instantly followed by severe pain darting towards the occiput." In this instance, the effusion was more likely to occur in consequence of the vessels being deprived of their natural support, the cornea having been laid open, and a part of the usual contents of the eyeball evacuated.

Laceration or wounds of the iris, in extracting a cataract, or forming an artificial pupil, and penetrating wounds of the globe, are often followed by extravasation of blood into the anterior chamber, and acute inflammation is sometimes attended by a similar effusion.

Effusion of blood into the eye not unfrequently occurs *spontaneously*, and, in such instances, it generally takes place into the aqueous humour.

Such spontaneous effusion of blood into the anterior chamber may be the result of any over-exertion either of the body‡ or of the eye,§ or it may occur in weak subjects during the progress of scrofulous ophthalmia.|| Again, these spontaneous extravasations may be vicarious with the menstrual discharge,¶ recurring at monthly intervals, and disappearing on the establishment of the catamenia,\*\* or they may occur in consequence of the cessation of

\* A Synopsis of the Diseases of the Eye, p. 201.

† Op. cit., p. 200.

‡ Bell's Surgery, vol. iii., p. 350.

§ M'Kenzie. Practical Treatise, &c. 3d edit., p. 597.

|| Zeitschrift für die Ophthal. Erster Heft, art. viii. Démours Traité, &c., tom. ii., p. 249.

¶ Walther. Merkwürdige Heilung eines Eiterauges. Zwieter Auflage, s. 395. Landshut, 1819.

\*\* Tyrrell. Practical Work, &c., vol. ii., p. 40.



this function.\* A hemorrhagic diathesis may cause a similar result.†

In such cases there is generally, after any excitement, bodily or mental, a return of the effusion.‡ Walther,§ in connection with this subject, relates a curious case, in which the patient could, at will, cause the effusion to occur, which, although occupying half of the anterior chamber, was each time re-absorbed in the wonderfully short period of from eight to ten minutes.

In all the cases of *spontaneous* effusion which have been hitherto recorded, the extravasation took place into the anterior chamber, and the only notice I have met with in surgical works, of blood being *spontaneously* effused in the chamber of the *vitreous* humour, is in a paper by Dr Robertson, in the second volume of this journal; and it is there noticed in connection with the diagnosis of incipient medullary carcinoma, which it very nearly resembles.

The following is a well marked case of such effusion of blood into the chamber of the vitreous humour, occurring without direct injury, and probably dependent on a diseased state of the vessels of the part. The appearances presented in the eye so exactly resembled those of medullary carcinoma, that the true nature of the disease could only be determined by the history of the case.

*Spontaneous Effusion of Blood into the Cells of the Vitreous Humour recurring at intervals.*

Miss —, æt. 29, suffered when fifteen years of age from red spots appearing before the right eye, which in about a week yielded to the use of laxatives. When twenty years of age, she remarked that the left eye retained the image presented to it for some seconds after the object had been removed, and vision gradually became more and more impaired in that eye, till August 1839, at which time she could not distinguish light from darkness. Under the use of leeches and blisters, and of mercury, given so as to affect the system, the sight in December began to improve.

In June 1840, she had an attack of blindness in both eyes, accompanied by severe pain in the eyes and forehead, which yielded to leeches, blisters, and mercurials.

In January 1842, she had another attack in both eyes, of a slighter character. In December of the same year, the disease suddenly recurred in both eyes, and again yielded to the use of leeches and mercurials. While still under treatment, she had in January 1843, a sixth attack in both eyes. The same remedies

\* La Lancette, copied in Med. Gazette, Oct. 1829.

† Dublin Journal, vol. xi., p. 395.

‡ Bell, loc. cit., &c. &c.

§ Op. cit., p. 61.



were continued. Subsequently electro-magnetism was tried, with temporary improvement of vision.

In August 1843, the disease suddenly recurred, for the seventh time, in the right eye (owing, it was supposed, to a sudden fright), and again yielded to leeches and mercury.

Sight continued improving until May 1845, when she had another slight attack in the same eye. Under the employment of leeches and mercury, vision is being again restored.

The right eye, after each attack, presented the following characters :—

The conjunctiva and sclerotic were healthy, the pupil dilated, but perfectly regular, the colour and texture of the iris natural. On a minute examination of the posterior chamber,\* it was observed that an effusion of blood had taken place into the vitreous humour at the nasal side, and about halfway between the iris and optic nerve. The red colour gradually disappeared, leaving a mass of a brownish yellow colour, and of semi-metallic lustre. Under the action of mercurials, the bulk of this deposit was lessened, and vision improved. At present it is about the size of a hazel nut.

No effusion can be traced in the left eye.

The pale coloured mass in the right eye, presented appearances nearly resembling those observed in the *first stage* of medullary carcinoma, from which it was distinguished,—

Firstly, By the red colour presented by the tumour, after each effusion, which contrasted with the unvarying dark amber or greenish hue† of the incipient medullary carcinoma; while the single red vessels,‡ which, in the latter, may be traced over the tumour, were not present.

Secondly, The pupil, instead of being, as it is in medullary carcinoma, irregular, and having the transverse diameter the larger, was equally and regularly dilated; while the colour and texture of the iris remained unaltered, instead of being reduced in thickness,§ or presenting the injected|| or reddish-yellow hue,¶ which it does in incipient medullary carcinoma.

Thirdly, The tumour decreased in size, and sight was gradually restored under the employment of mercurials; while in the malignant affection, the size of the tumour never decreases, and vision becomes more and more impaired, in spite of all remedial means.

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\* By the application of belladonna, and by allowing the focus of a double convex lens to fall on the eye, we are enabled more readily to appreciate any alteration in its deeper seated textures.

† Wardrop on Fungus Hæmatodes, pp. 10 and 41.

‡ Dr Robertson, Northern Journal, vol. ii., p. 66.

§ Dr Robertson, loc. cit.

|| Wardrop, op. cit., p. 47.

¶ Dr Robertson, loc. cit.



Similar appearances, requiring most minute attention in the diagnosis, are likewise presented after deep-seated inflammation of the globe, terminating in the deposition of a clot of lymph,\* or proceeding to the effusion of pus into the cells of the hyaloid membrane.†

Our *prognosis* in *spontaneous* effusion of blood, be it into the anterior chamber or into that of the vitreous humour, must be very doubtful, the primary cause, in most cases, being a diseased state of the vessels, which are liable again to give way on the application of any exciting cause.

In spontaneous effusion of blood into the vitreous humour, we have further to fear that this constantly recurring extravasation, and the presence of the organized lymph resulting, may, by compression of the retina, cause at last permanent insensibility to the stimulus of light.

The *treatment* most to be relied on, on the occurrence of any such sanguineous effusion, is general or local depletion according to the circumstances of the case, accompanied by cold applications and quiet both of mind and body; while, farther to promote absorption of the effused mass, mercurials must be employed so as to affect the system.

The recurrence of the extravasation must be guarded against by attention to the general health, due regulation of diet, moderate and regular exercise, avoiding all stooping or over-exertion, more particularly of the eye, keeping the feet warm and the head cool, and sleeping with the head more than usually raised.

58 Queen Street, July 1845.

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\* Lawrence, Practical Treatise, &c., 2d edit. p. 697.

† M'Kenzie, op. cit. p. 607.



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# OBSERVATIONS

ON

THE MECHANISM AND DIAGNOSTIC VALUE

OF THE

## FRICTION VIBRATIONS

PERCEIVED BY THE EAR, AND BY THE TOUCH IN PERITONITIS.

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## ON THE FRICTION VIBRATIONS IN PERITONITIS.

(Read before the Med.-Chir. Society of Edinburgh, 5th February 1845.)

FRICTION signs in the early stages of Peritonitis have, during the last ten years, occupied the attention of several authors. They have not, however, been phenomena of frequent observation—probably from their having been rarely sought for; and it may be remarked that M. Piorry, in his recent work, "*De Pathologie Iatrique ou Médicale*,"<sup>1</sup> states, that Messrs Barth and Roger, whose researches in auscultation are well known, had never met with them, nor had he himself been more fortunate—a circumstance sufficiently remarkable when we consider the ample field for observation enjoyed by these gentlemen, to whom medical science is indebted for much that is of the highest value connected with the diagnosis of diseases by sound.

The first notice of the friction indications in Peritonitis occurs in the work of M. Piorry, *De la Percussion Médiante*, &c.,<sup>2</sup> in which the author remarks, that Laennec was of opinion that "recent inflammation of the peritoneum gives rise, on the movements of the patient, to a sound like to that of parchment which is crumpled;" and in his more recent work, he reiterates a similar statement.<sup>3</sup> This observation, which is not to be found in the works of Laennec, M. Piorry became acquainted with at the Clinique of the latter, thus affording one proof more of the extraordinary comprehensiveness of mind, and unwearied powers of research, of the great discoverer of auscultation.<sup>4</sup> In June 1834, M. Désprez communicated to the Anatomical Society of Paris, "some details in regard to the auscultation of the abdomen in Peritonitis. He thought that in the early periods of the disease, and before any liquid effusion had occurred, a leather creaking, or sound of friction, analogous

<sup>1</sup> Paris 1841, p. 304.

<sup>2</sup> Paris 1828, p. 174.

<sup>3</sup> Op. cit. p. 304.

<sup>4</sup> In an interesting communication which I had recently the honour of receiving from M. Piorry, he informs me,—"*Ce n'est pas dans un livre, c'est à la clinique de Laennec que j'ai appris que cet illustre observateur avait appliqué au diagnostic de la péritonite son admirable découverte. Il avait dit en effet à qui avait voulu l'entendre que dans des cas où les surfaces contigues de la séreuse abdominale exerçaient des mouvemens l'une sur l'autre, et alors quelles étaient le siège d'exsudations plastiques inégales et rugueuses, on entendait un bruit de frottement très marqué. Il est évident que cette proposition contient tous les élémens de ce qui a été fait depuis sur ce sujet. C'est avec une véritable satisfaction que j'ai vu ma note rendre à Laennec ce qui appartient à Laennec, car j'ai publié mon ouvrage et par conséquent j'ai fait la citation dont il s'agit bien avant tous les travaux sur ce sujet. Il m'eût été facile de parler du fait sans en indiquer la source; mais j'ai laissé à d'autres le soin d'en agir ainsi. Ma citation prouvera j'espère que personne plus que l'auteur de la plessimétrie n'a rendu justice à Laennec, dont il s'honore d'avoir été l'élève.*"—Paris, le 20 Février 1845.



to that of pericarditis, could be heard." And at a subsequent meeting of the same Society, he "presented a large coagulum of blood, which had caused complete obliteration of the vena portæ, in a subject who had sunk under ascites. The spleen was large, and the vena cava inferior presented at many points small osseous concretions in the form of thin micaceous plates, which, by their sharp and curved edges, bent towards the concavity of the vessel, had raised the internal membrane of the vein. It was in this patient that M. Désprez heard the *bruit de cuir* in the commencement of recent peritonitis, following tapping for ascites, and of which traces were still to be found."<sup>1</sup> Meagre as are the details of this case, I have thought it worthy of quotation, as the earliest on record, in which the friction indication had been noticed in connection with peritonitis.

The first observations in this country were published by Dr Beatty in September 1834.<sup>2</sup> These were succeeded by the more ample details communicated by Dr Bright in 1835;<sup>3</sup> and in the two following years appeared the able critical analysis of previous observations by Drs Corrigan,<sup>4</sup> and Stokes.<sup>5</sup> The latest researches on this subject appear to have been made by M. Désprez, to whom I have previously alluded, and who made the peritoneal friction indications the subject of his inaugural dissertation.<sup>6</sup> Other writers have noticed the phenomena about to be considered; but the above appear to be the only authors who have recorded original observations: to these I now add the two following cases, which seem to embrace and elucidate points of interest either not hitherto known, or insufficiently considered.

*Case of Phthisis Pulmonalis, Complicated with Bronchitis and Peritonitis.*—A—P—, aged 31, a tailor, labouring under incipient phthisis, was admitted into the Royal Infirmary of Edinburgh on the 14th of July 1841, where he remained till the 2d of November, when he left the hospital, somewhat relieved from the more urgent symptoms of his disease. In *five* days, however, he again presented himself, in consequence of an aggravation of his complaints, and he was accordingly readmitted into one of the wards then under my superintendence.

It is not my intention to go over all the details of the case, which do not equally bear on the object of this communication; suffice it to say, that attended by the ordinary symptoms and physical indications of phthisis and severe bronchitis, the case continued

<sup>1</sup> Arch. Gén. de Méd., Bull. de la Soc. Anatom., T. v. Paris (June and July) 1834.

<sup>2</sup> Dublin Med. Jour. vi. p. 146.

<sup>3</sup> Med. Chir. Trans. xix. p. 176, London.

<sup>4</sup> Dublin Med. Jour. ix. p. 392, 1836.

<sup>5</sup> Diag. and Treat. of Diseases of Chest, p. 146, Dublin 1837.

<sup>6</sup> Traité Pratique d'Auscultation, &c. Barth and Roger, p. 514, Paris 1844.—I regret that after repeated attempts I have been unable to obtain M. Désprez' essay.



evidently progressing rapidly towards an unfavourable termination.

*On the 21st of January 1842*, he became affected with a subacute attack of *peritonitis*. He complained of pain, increased on pressure, across the abdomen, which symptom, with acceleration of the pulse, continued more or less till the 10th of February, when the following was the condition of the patient. The abdomen was somewhat tumid, occasionally tense and tympanitic, and fluctuation was distinctly perceptible at the most dependent parts. He complained of pain, generally over the abdomen, increased on pressure, and especially so in the epigastrium; there was also pain in the loins on the motion of the trunk, or on pressure there. The bowels were freely moved after medicine; the urine was said to be scanty, but its quantity could not be ascertained; its sp. gr. was 1030, and was not coagulable by heat or nitric acid; pulse 88, of tolerable strength; skin about normal heat; tongue slightly furred and rather dry; much thirst and impaired appetite. At this time the cough, which had been severe and the breathing difficult, and more thoracic than usual, were somewhat easier, and the expectoration, which sometimes reached  $\text{3xx}$ , in twenty-four hours, amounted only to  $\text{3v}$ , of a tenacious, greyish-yellow mucus. After cupping to the loins, and leeching to the abdomen, the pain in both these regions was diminished, although by no means removed. He had suffered from a severe twisting pain in the abdomen occurring in paroxysms several times during the previous night.

*On the 12th Feb.* after free motion of the bowels, he felt considerable relief to the abdominal pain, which was now manifest chiefly on pressure in the umbilical region.

*On the 14th*, he had constant pain in the left hypochondrium, increased on pressure, and sometimes exceedingly severe. Percussion there was tympanitic. The pain in the umbilical region had now almost disappeared after leeching; and on the 16th, after the same means applied to the hypochondrium, the pain of the abdomen was still less. The urine was reported to have increased in quantity, but could not be measured.

*On the 17th*, the fluctuation was observed to have diminished, while the tympanitic distention had increased, and in the morning the abdomen was tense and hard; about mid-day, however, it had become more flaccid, and considerably reduced in size. *In the upper part of the abdomen, and especially in the umbilical region, a continued, gentle rustling, or soft jerking, rubbing sound, was heard on the application of the ear or stethoscope, varying in intensity, and frequently mixed with borborygmi.* He still complained of general uneasiness in the abdomen, increased on pressure, particularly in the umbilical region, and his thighs were drawn up towards the abdomen, which position, he stated, gave him relief. The pulse was 88, and of good strength.

*On the 19th*, the abdominal pain and swelling still continued, along with general tympanites; but on lying on either side, dulness



upon percussion, and fluctuation were perceptible in the most dependent parts. *The rustling sound had rather diminished in intensity in the umbilical region, but was still distinctly heard generally over the abdomen, and at some parts very loud. To the touch there was a peculiar sensation, giving the idea of a continued soft creeping, or gentle vibration, under the fingers. These indications were not perceived where the fluctuation was felt; but on the patient lying on the opposite side, so as to admit of the removal of the fluid by gravitation, and the peritoneal surfaces to come in contact, they became perceptible. The pulse was 92, and soft.*

*On the 21st, there was very little pain of the abdomen; the distention had diminished, and the stroke-sound was less tympanitic. As he lay upon his back, slightly inclined to the left side, there was an obscure sense of fluctuation across the abdomen, but very distinct in the depending side. No rustling sound nor tactile vibration could now be perceived, and very few borborygmi, and the respiration was more abdominal than hitherto. The pulse was 92, and of improved strength.*

*On the 23d, the stroke-sound of the abdomen generally, was duller, except at the uppermost fourth of the abdomen, when lying on his right side, where the sound was clear, and an occasional slight degree of rustling was heard; and about the edges of the left false ribs a more prolonged sound, similar in character, but louder and synchronous with inspiration and expiration, was perceived. The patient died about 10 P.M. of the same evening. As a point of the history of the case bearing upon the peritoneal complication, it is proper to add, that previous to his admission into the hospital, the patient became affected with an inguinal hernia of the left side, which proved a great source of annoyance to him, during his severe and protracted illness. He attributed it to the severity of the cough, and, during the latter part of his career, the hernia had very much increased in size from the same cause.*

*Examination of the body was made about 40 hours after death. Thorax.*—The upper parts of both lungs contained a considerable quantity of tubercular matter in different stages, together with a few small cavities. In the right the tubercles were of a blackish colour,—emphysema was present in the anterior edges of both lungs.

*Abdomen.*—Upwards of four quarts of a greenish, clear, serous fluid were found in the peritoneal sac, containing, in the most dependent portions of the cavity particularly, numerous small shreds of lymph. On many points of its surface, the peritoneum of the intestines and mesentery, was covered with a thin, soft, easily separable, brownish-yellow layer of lymph; but generally speaking, it was free from this. The peritoneum, especially that portion lining the anterior and upper part of the abdominal parietes, was slightly injected with blood, and this was also observed in several points on the peritoneum of the intestines, although in a slighter degree. The *liver* was generally of a dark purple hue and more



evidently granular than usual; some of the granules being pale, but most of a dark colour. It was about the normal size; the *kidneys* appeared healthy, and no other morbid conditions were observed.

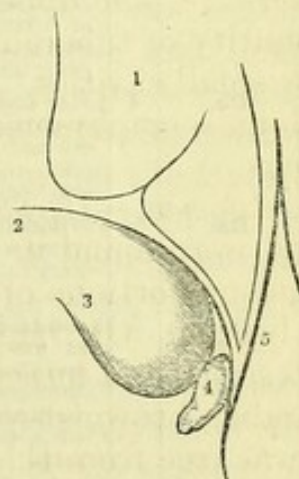
In the case just read, I have, for the sake of brevity, omitted the details of a therapeutic nature generally; and very much curtailed those concerning the pathology of the chest, it being my wish to submit to the Society that portion of the case relating to the peritonitic complication.

Through the kindness of Dr Bennett, I am enabled to add the following notes of a case which recently came under his notice in the Royal Infirmary. The patient, A—— M——, a labourer, aged 40, admitted into the hospital on the 19th December 1844, stated that about five weeks ago, he became affected with considerable pain in the left hypochondriac region, extending to the other side, and from thence generally over the chest, accompanied by dyspnœa, cough, and expectoration. On admission he complained of a "*pricking or sticking*" pain in the left lower lateral region of the thorax, with cough and muco-purulent expectoration. On the 21st he felt easier, but still complained of lancinating pain in the lower part of the left side of the chest, increased by pressure and by coughing. His sputa were muco-purulent and frothy. *In the region of the chest complained of, a rubbing sound was now heard, and towards the lowermost portion of that region, the sound ceased to be perceived.*

On the 22d, there was acute pain immediately under the left false ribs anteriorly, increased on deep inspiration and on pressure, and he could not bear percussion thereon. *On listening with the stethoscope, a very loud, double friction sound, of a leather-creaking character, synchronous with inspiration and expiration, was heard.* The patient died on the morning of the 23d.

*Examination of the body. Dec. 24.—Chest.*—Slight tubercular disease existed at the apex of both lungs, with some old firm adhesions between the pleuræ.

*Abdomen.*—Between the left lateral and anterior portion of the diaphragm, the upper part of the spleen, and great extremity of the stomach, a small space or cavity, was found, as in the accompanying diagram,<sup>1</sup> containing about  $\bar{z}$ i of pus. The surfaces of the diaphragm, spleen, and stomach, to the extent to which they contributed to form the cavity, were coated with a recent layer of lymph, and united together by the same means. On the surface of the spleen there was a depression, which might have admitted the point of the little finger, also coated with lymph.



<sup>1</sup> Explanation of Diagram.—1. Lung, 2. Diaphragm, 3. Stomach, 4. Spleen, 5. Cavity, in a line with figure.



This case possesses peculiar interest from the great difficulty which it presented in the diagnosis, owing to the site of the peritonitis giving to the affection so much the physical characters of dry pleurisy, as perhaps, scarcely to have been distinguished from it by the most careful examination.

In the following table, the principal facts, bearing upon the diagnosis of peritonitis by the friction indications, have been collated as shortly as possible, from all the cases on record, so far as my research has gone.

TABLE OF CASES OF PERITONITIS, IN WHICH FRICTION VIBRATIONS HAVE BEEN PERCEIVED.

No.	Authors.	No.	Tumour or not.	Condition of Peritoneum, &c.	Tactile Vibrations.	Audible Vibrations.	Mechanism.
I.	Desprez. June and July 1834.		Spleen considerably enlarged.	Traces of recent peritonitis.		Bruit de cuir ou de frottement.	
II.	Beatty. Sept. 1834.	1	A hard unyielding ovarian tumour filled abdomen from pubes to sternum.	Recovery — inflammatory indications subsided, and with them the friction signs.	Sensation of a grating, or rubbing together of two uneven and rather dry surfaces.	Loud and distinct frottement.	Most evident by full inspiration, causing abdominal parietes to move more freely over the surface of the tumour.
III.	Do.	2	Great inflammatory enlargement of spleen.	Recovery — friction signs ceased on inflammation being arrested.	A creaking sensation.	A creaking sensation.	Same as above (?)
IV.	Bright. 1835.	1	Large fungoid, lobulated, soft, and spongy tumour, attached to stomach, and descending to pelvis.	Died July 30. — Strong adhesions between peritoneum of parietes and tumour — latter slightly attached to viscera by recent adhesions.	A kind of crepitus. — July 8.		
V.	Do.	2	Large, irregular, semi-solid ovarian tumour.	Died 31st Dec. — Parietes of abdomen adhered generally to tumour.	A slight crepitus, or like the crackling feel of new leather. — Feb. 24.		By making the parietes of abdomen move gently.
VI.	Do.	3	A soft, uneven, and spongy tumefaction, supposed during life to be a mass of serum and fibrine. No organic tumour.	Died Nov. 22, 1834. — Parietes of abdomen universally adhered to the intestines by organized cellular membrane.	A kind of crepitus — July 25, 1830. — continuing for some time.		Upon pressure.
VII.	Do.	4	Liver small and irregular — right lobe had a hard semi-cartilaginous coating.	Died June 1834. — Colon and omentum adhered to parietes of abdomen.	Slight sensation of crepitation over liver and omentum. April 1832. — Indistinct after 2 or 3 days.		
VIII.	Do.	—	Peritoneum covered with miliary tubercles.	Recent adhesions between intestines and parietes.	Crepitation.		
IX.	Do.	7	A solid substance at umbilicus; and above, the thickened omentum formed a resisting mass.	Died June 12. — No post mortem examination.	Sensation as when finger or hand is rubbed over a damp pane of glass, or other damp polished surface. May 4. — Crepitus. May 7. — Crepitus like deep seated emphysema, rather than crackling of leather. May 18. Soft crepitus over lateral part of abdomen on both sides. May 21. — Soft crepitus below navel. June 1.		By placing the hand firmly on one side of the abdomen, as the mass of intestines was made to move by gently pressing with the other hand on the opposite side. — May 4. On pressure. — May 7.



No.	Authors.	No.	Tumour or not.	Condition of Peritoneum, &c.	Tactile Vibrations.	Audible Vibrations.	Mechanism.
X.	Hutchison. 1835.		Enlargement and induration of the omentum, mesenteric glands, spleen, and pancreas, and thickening of colon.	Adhesions of parietes and diaphragm to liver, omentum, arch of colon, and small intestines: the latter adhered to one another.	Crepitus <i>six weeks before death.</i>		
XI.	Corrigan. 1836.		Large irregular, medullary, ovarian tumour.	Died Oct. 16.—Parietes opposite tumour covered with rather firm, rough, spongy lymph—no adhesions.	A creaking sensation, resembling the creaking of new leather, ( <i>June</i> ) till death, with varying intensity.		By pressing the abdomen with the hand in situation of tumour.
XII.	Stokes. 1837.	1	Inflammatory tumefaction of liver.	Recovery, with cessation of the signs.		Intense friction sound over hepatic tumour.	On deep inspiration.
XIII.	Do.	2	Inflammatory tumefaction of left lobe of liver.	Recovery, with cessation of the signs.	Intense friction signs of descent and ascent over tumour.	Intense friction signs of descent and ascent over tumour.	On taking a deep inspiration, and depressing the diaphragm.
XIV.	Author.		Sub-acute peritonitis—no tumour.	Died Feb. 23.—Peritoneum partially covered with a thin layer of recent lymph, and slightly injected with blood. No adhesions.	A continued creeping sensation, or gentle vibration under the hand.— <i>Feb. 19.</i>	A continued gentle rustling or jerking rubbing sound.— <i>Feb. 19.</i> Occasional slight degree of soft crumpling sound.— <i>Feb. 23.</i> A prolonged sound, similar in character, but louder, about cartilages of left false ribs.— <i>Feb. 23.</i>	By the intestinal peristaltic motion.  By do  By respiratory movements; the sound being double, and synchronous with inspiration and expiration.
XV.	Bennett.		Surfaces of a portion of the diaphragm, stomach, and spleen.	Peritoneum of affected parts covered with a recent layer of lymph partially uniting these organs.		Double friction sound of a leather creaking character.	By respiratory movements—sound synchronous with the inspiration and expiration.

In the *second column* have been placed the *names of the authors*, with the dates of the publication of their observations; and in the *third*, the *number of the case* as it occurs in the works from which I have quoted, that easy reference may be made to the observations themselves. In the *fourth column* have been recorded the facts in regard to the *existence or not of an abdominal tumour*; and as this is a point which seems to have stood in the way of more extended research, it will, perhaps, be useful to analyse the observations on this subject still further.

Out of the *fifteen cases* in the table, a *large abdominal tumour* existed in *four*; the *liver*, or at least the peritoneal surface of this organ, had been *inflamed* in *four*; the *spleen*, or its surface, *inflamed* in *two*, probably in *three*—but the particulars of M. Désprez' case are not given—and *enlarged* in *two*; the *omentum alone*, *thickened* in *one*; the *omentum and intestines thickened* in *one*; a



*soft, uneven, spongy tumour*, probably from serum and fibrine, in *one*; *miliary tubercles* covered the peritoneum in *one*; and simple recent peritonitis, with a *partial, thin, soft, coating of lymph* was observed in *one*. So that, from these cases, it appears that a *true organic tumour* had only been present in a *minority*. If, however, those in which either the *liver or spleen* was affected, and which no doubt presented an analogous physical condition, be included, then a *majority* of the cases may be said to have had *one at least of the inflamed peritoneal surfaces adherent to a solid resisting body*; which circumstance, we agree with Dr. Stokes in considering favourable to the development of the friction vibrations,<sup>1</sup> although not necessary for the production of the latter, as was first pointed out by Dr. Corrigan;<sup>2</sup> but which is still more clearly proved by the case (No. 14) I have had the honour of reading, which was, so far as the peritonitis is concerned, less complicated in its character than any other in the table.

In the *fifth column*, the facts having reference to the *state of the peritoneal surfaces*, and whether *adhesions existed or not*, have been stated, from which it appears, that of the *fifteen* cases, after deducting *four* in which recovery took place, and *one*, the details of which are imperfect, *adhesion of the peritoneal surfaces* occurred in *seven*. But to show of how little value this evidence is in favour of the suggestion, that the friction vibrations are diagnostic of the existence of adhesions, it may be remarked, that of these *seven* cases, the *post-mortem examination* of *one* took place *upwards of four years* after these indications had been perceived; *one* nearly *two years* after this; *one* about *ten months*; *one* *six weeks*; and *one* *twenty-two days*. In *one* case only did the patient die within *twenty-four hours* after the perception of the friction signs; so that, with this exception, the evidence of all the *seven* cases, in which adhesions had occurred, is insufficient to prove, that, although adhesions were found on dissection, they were present at the time when the friction vibrations were perceived. Dr Bright's observations as a whole, rather tend to an opposite conclusion—though, in some instances, his diagnostic remarks are stated in a hesitating manner<sup>3</sup>—and it is to Dr Corrigan that we are indebted for first proving the unsoundness of this doctrine, and pointing out the importance of his views in practice.<sup>4</sup> The latter author, however, appears to me to adopt this opinion too exclusively when he not only says, that “this sign (friction indication) is not necessarily connected with the existence of adhesion, *but so long as the creak continues to be felt, adhesions are not formed.*”<sup>5</sup> This is a point open for investigation, and, in the absence of all proof, we may be permitted to doubt the accuracy of the remark, especially when we consider the facts which present themselves in regard to adhesions

<sup>1</sup> Op. cit. p. 476.

<sup>2</sup> Dublin Medical Journal, v. ix, p. 397.

<sup>3</sup> Op. cit. p. 177.

<sup>4</sup> Op. cit. p. 397-400.

<sup>5</sup> Op. cit. p. 400.



of the serous surfaces after inflammation. It is not always that we find these surfaces so universally and intimately united as to impede all motion reciprocally of the one upon the other, though it may be very much limited. But this we know does occur, as well in the case of the pericardium and pleura, as in the peritoneum; and in such instances, we should not expect the development of any friction vibration. On the other hand, when the adhesions are much interrupted by spaces without any union, although coated with lymph, it is evident that friction motion may occur by one or other of the mechanical causes to be afterwards noticed. And even, although the adhesions be general, and the adherent spaces few and small, still the yielding nature of the soft, recent lymph, it appears to me, might be sufficient to allow of the physical conditions proper for the production of the friction vibration,—for a time, at least, before it had intimately united the surfaces together,—it may be however of diminished intensity. The amount of motion necessary for the production of the friction sound, seems to be very limited, if we may judge from the simple experiment of bending *two* portions of dry and somewhat stiff leather—*not necessarily new*—closely applied to one another; or, by very gently rubbing the glazed surfaces of thinner leather together. In both instances, the degree of motion of the one upon the other is very trifling, and, in the first case, hardly perceptible, and yet the creaking vibrations are distinctly enough perceived. This seems also apparent from Dr Corrigan's experiment, in which he found that by "squeezing" two peritoneal surfaces covered with a layer of tolerably dense and spongy lymph, a creaking could be produced.<sup>1</sup> Different degrees of motion, however, may be necessary in the different modifications of the friction vibrations; and the less dense, and thick the layer of lymph, and the more elastic the subjacent organs, probably the greater will be the amount of motion required for their production.

From the *sixth column* in the table, it appears that almost every author who has made original observations on this subject, has recorded the peculiar *vibratory indications perceived by the sense of touch over the part affected*; and this, no doubt, has arisen from the necessity of manual examination of the abdomen leading so directly to their detection. The character of the sensations has been very differently described, even in the same case, at different periods of the inflammation; so much so, indeed, as to render it more than probable that the various physical conditions of the serous surfaces had given rise to corresponding modifications of this peculiar sen-

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<sup>1</sup> Op. cit. p. 397. As has been remarked, there is little doubt that the honey-combed appearance of the recent lymph, so often seen in pericarditis, and which has also been observed on other serous surfaces, as the pleura, and peritoneum covering the liver, (Bright, Op. cit. p. 202), is the result of motion between these surfaces while the adhesions are soft and extensible. And so long as there is motion between the surfaces, there may be sound.



sation ; and further observation may yet enable us to connect each species of friction vibration with a certain physical condition of the peritoneal surfaces. At all events, enough has been recorded to encourage us in pursuing this investigation, with the view, if possible, of rendering our diagnosis more minute than hitherto, that we may not only be enabled to detect the part affected, but the precise condition of the serous membrane, so that all remedial measures may be applied at the most favourable periods.

*The sounds perceived either along with the tactile vibrations, or unaccompanied by them, and contained in the seventh column, are by no means so numerous as could have been wished for. Few as they are, however, they exhibit, as their identity of origin would have led us to expect, the same variations in character, as the tactile sensations, and so exact is the resemblance, and so much does the one indication suggest the other, that, in most instances, the same terms have been employed to describe them. It must not be supposed, that wherever a blank occurs in this column, no sound had been present in the corresponding cases ; for any friction vibration perceptible to the touch, must have been distinctly perceptible to the ear, had the observation been made for the purpose of detecting it. On the other hand, a friction vibration sufficiently strong to give rise to audible friction phenomena, may not be perceptible to the sense of touch. And we have no hesitation in agreeing with Dr Corrigan, that, in cases where the friction vibration "may be indistinct to the sense of touch, the stethoscope is of great use in detecting it,"*

*and that it "may be heard loud to the ear while it is dull to the finger."*<sup>1</sup> From which we may draw the practical inference, that in an obscure case, the absence of all tactile vibration should present the strongest reason for minute auricular examination.

From the terms used to describe the vibrations perceived by the touch, it appears, that these sensations varied in intensity from a *soft creeping, or gentle vibration, under the hand ; or a sensation like that of the finger rubbed over a damp pane of glass ;* to those of a more intense kind, described by the terms, "*creaking,*" "*crepitus,*" and "*grating.*" The accompanying sounds varied in the same manner from a "*gentle rustling,*" to a "*loud friction,*" and a sound of "*creaking.*" Judging from the descriptions, as contained in the table, the more intense friction vibrations, both of touch and hearing, must have possessed considerable analogy, although, no doubt, differing in intensity, as well as in character ; but the observations on this point have been so limited, as to leave us very much in a state of mere conjecture as to how far the views of Drs Stokes,<sup>2</sup> Bouillaud,<sup>3</sup> Williams,<sup>4</sup> and others, in regard to the connection between the peculiar character and intensity of the friction

<sup>1</sup> Op. cit. p. 393, 394.    <sup>2</sup> Dublin Journal of Medical and Chemical Science, v. iv. p. 56, 57, 1833.    <sup>3</sup> Maladies du Cœur, v. i. p. 457, &c. Paris, 1835.    <sup>4</sup> Path. and Diag. of Diseases of Chest, p. 236. London, 1840.



sounds, and the physical conditions of the serous membrane in pericarditis, may be applicable in peritonitis. They have hardly been proved in the former, and therefore we may suspend our judgment of them in regard to the latter. Unlike the cardiac apparatus in pericarditis, the abdominal organs differ very much in their physical characters, especially as to density and resistance; and therefore the same amount of inflammatory alteration of the serous surface over a solid organ, as the liver, the spleen, or an organic tumour, although sufficient to produce intense friction indications, might give rise, over the soft elastic stomach or intestines, to a greatly diminished degree of friction vibration. And should subsequent observation enable us to refer the different indications, described by the terms formerly noticed, to peculiar states of the serous membranes, our judgment ought always to be qualified by the consideration as to the solidity or non-solidity of the subjacent parts. Whether or not the specific peculiarities of the friction vibrations, apart from intensity, may yet be proved to depend upon the state of the serous surfaces, at different periods of the disease, at all events it will have been observed, that in those cases, in which the more harsh friction vibrations occurred, there existed a *rough, or more or less dense and rough, or rough and resisting condition of the parts*. In the *fourteenth* case, on the contrary, in which simple subacute peritonitis was present, the vibrations both by the touch and by hearing, were so soft and gentle, as, almost from this alone, to enable us to conclude that *no solid or otherwise indurated organ was at all concerned in their production, but that the intestines, distended with gas, as they were known to be, and probably only thinly covered with a very soft layer of lymph, alone gave rise to the indications under consideration*. But when we come to investigate the mechanism of the friction phenomena, this will be rendered sufficiently evident. The first report in the 9th case in the table, appears to corroborate these remarks; and, so far as it goes, this case possesses considerable interest, as presenting the only example on record, that I am aware of in which the *progress of the inflammatory alterations are apparently pointed out by the friction vibrations, communicated to the sense of touch*, although wanting the evidence of post-mortem examination. The friction indications, in this instance, from having been at first very *soft and gentle*, became more *intense*; and, towards the termination of the case, somewhat *softer*; either as *adhesions formed, or as the roughness of the surfaces disappeared*; and had the patient lived, at last to disappear, as in the cases recorded by Dr Stokes.<sup>1</sup>

*The immediate cause of the vibratory sensations, is the rubbing together of two peritoneal surfaces, physically altered in various ways; and in order to prove this by experiment, Dr Corrigan, by artificial*

<sup>1</sup> Op. cit. M. Piorry has expressed it as his opinion, that when the peritoneum is covered with miliary granulations or other accidental productions, we are likely to hear special sounds. Vide p. 414, *Traité de Diagnostic*. Paris, 1837.



friction of one portion of peritoneum, which had suffered from inflammation, and was covered with lymph, upon another in the same condition, produced several of the indications described. It was easy, he informs us, to produce the "ordinary frottement," or friction sound, but he was only occasionally successful in producing the "new-leather creak;"<sup>1</sup> an observation of some interest, as pointing out how variations, probably in the mode of rubbing, or the degree of pressure exerted, may modify the character of the indications, and showing the necessity of farther inquiry.<sup>2</sup> That the peritoneal friction indications, however, may occur at a still earlier stage of the inflammatory process, before there is any effusion of lymph, and at a period when the serous surface is simply drier than usual, from a deficiency of its ordinary secretion, is a circumstance of great probability. M. Collin alludes to this state of the serous membrane as a cause of sound in pericarditis,<sup>3</sup> and Professor Andral admits "the suspension of the secretion of a part as one of the earliest effects of irritation, the secretion subsequently becoming either more abundant or modified in its character."<sup>4</sup> And if two comparatively dry peritoneal surfaces, as in the following experiment, be rubbed together, a friction sound is the result. A small portion of intestine was distended with air, and its serous surface dried by wiping off the serous moisture with a soft towel, which was also done to a portion of the serous surface of the abdominal parietes. The portion of intestine was then gently rubbed upon the latter, to which the stethoscope had been applied, when a distinct soft friction vibration was at once perceptible, very much like the "gentle rustling" which was perceived in the 14th case in the table. It was also observed that the drier the surfaces of the membrane, and the greater the degree of pressure exerted during the friction, the louder was the sound produced. Further evidence, however, is required before we can safely deduce any thing practically useful from these observations. But to this conclusion at least we may fairly come, that whatever be the state of the peritoneum, whether covered by lymph or not, the less moistened it is, and the greater the amount of motion of the one surface upon the other, the more intense will be the friction vibrations. On the other hand, diminution in the amount of the motion, and increase of lubrication of the surfaces by a liquid effusion, and the more oily in its character this is, the less intensely the friction indications will be perceived.<sup>5</sup>

<sup>1</sup> Op. cit. p. 397. <sup>2</sup> Whether or not the indications described by the term "Crepitation," may at all result from the separation of lymph-covered, serous surfaces, on pressure or otherwise, subsequent observation may determine. Certain it is, that a sound of a crepitating kind occurs during the act of separation of parts, in a similar physical condition to the peritoneum so affected, and nearly free from serous effusion.

<sup>3</sup> De la Poitrine, p. 116. Paris, 1824. <sup>4</sup> Précis d'Anatomie Pathologique, p. 312. t. 1. Paris 1829.

<sup>5</sup> In the "Gazette des Hôpitaux," 14th December 1844, M. Marchal, in some observations, "*de la crépitation douloureuse des tendons*," which he denominates "*téno-*



So much for the immediate cause of the phenomena, but we have still to consider shortly the *peculiar mechanism by which such friction motion is produced*; and here it may be remarked that although we have to deal in this instance with a serous sac, analogous to the pleura and pericardium; still, in the case of the peritoneum, it is evident that there exist certain peculiarities, bearing upon the mechanism of the friction vibrations, of a more complex character than in either of the two cavities mentioned. In the pleuræ, for example, there is simply the motion of ascent and descent by which the surfaces are made to rub upon one another during respiration; and in the same manner the systole and diastole of the heart produce analogous motions of the two pericardial surfaces. In the case before us, however, there is not only the motion of the diaphragm and abdominal muscles during respiration,—restrained though it generally is—by which to a certain extent one portion of the peritoneum, especially at the upper part of the abdomen, is made to move upon another; but there likewise exists, probably at all times, except when paralysed by want of nervous energy, or by mechanical obstruction, *the peristaltic motion of the stomach and intestines*, by which it is evident that a movement of the one portion of the peritoneal surface upon another must be constantly taking place.

*The mechanical cause of the friction indications is recorded in ten cases, as quoted in the eighth column of the table. In six it was the motions of respiration, that is to say, the movements of the diaphragm and abdominal muscles; and the vibrations were chiefly or most intensely developed during inspiration, and especially when this was deeply performed, so that the diaphragm was manifestly depressed; from which we are entitled to draw the practical deduction, that the friction indications might by this act become developed, although absent during ordinary diaphragmatic movements. In all these cases the inflamed peritoneum was connected with a solid resisting medium; and even in the fourteenth case, the vibrations, from the movements of respiration, occurred at the left false ribs, where this portion of the thorax not only presents similar physical conditions as to solidity, but where all motion, from depression of the diaphragm, must always be most evident. In five cases, pressure with the hand on the abdominal parietes, with or without the application of the ear or stethoscope at the same time, was the mode adopted*

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*synovite*, (inflammation de la queue des tendons)" has the following remarks:—"En effet, la synoviale tendineuse n'est elle pas analogue à une séreuse, et le propre de l'inflammation d'une séreuse, n'est il pas, d'une part, de diminuer ou même d'arrêter l'exhalation dans les premiers moments, et d'autre part, de faire perdre à la membrane son poli? Etant données ces deux circonstances, la perte du poli et la sécheresse, rien de plus facile à comprendre que la crépitation. Le frottement pleural, le frottement péricardique, le frottement péritonéal, la crépitation propre à la poche synoviale pre-rotulienne inflammée et celle qui nous occupe, sont un seul et même phénomène,—à part le siège." For this notice, which was communicated to me since my paper was written, I am indebted to M. Piorry.



to elicit the friction vibrations. Of these a large abdominal tumour existed in *two*. In *one case alone* (No. 14) *were the phenomena perceived to arise spontaneously, and without being in the least indebted to the respiratory movements or to artificial pressure, but entirely resulting from the peristaltic motion of the intestines.*

All who have attempted to describe sounds and sensations of touch by words, have felt the difficulty of conveying an accurate idea of these perceptions. And this is an unquestionable barrier in the way of any attempt to prove—especially to those who may be altogether unacquainted with the character of the indications under consideration,—that the friction sensations perceived in the fourteenth case were purely the result of peristaltic motion. On this point I have not the smallest doubt; and to say that the peculiar character and rhythm of the friction vibrations as perceived in that case, afforded the most conceivably perfect representation that the senses of hearing and touch could receive, of the very remarkable vermicular motion belonging to the intestines, is to state nothing more than what seemed to be one of the simplest and safest acts of deduction from the facts observed. Without some acquaintance, however, with the peristaltic motion from observation in the lower animals, greater difficulty might have presented itself, and even this ought to have been diminished by the recollection of the descriptions given of the intestinal motions, which I have nowhere found so scientifically described as in the *Dictionnaire des Sciences Médicales*, by M. Piorry;<sup>1</sup> and the most concise and graphic account I have met with in the English language, is perhaps that of Dr Charleton, published in 1680, which is as follows:—"The manner of this subtle and complex motion may be conceiv'd from an inspection of the gutts of an animal newly kill'd, and opened while some reliques of the vital heat are yet remaining in them. For one shall see the gutts variously shortening, wrigling, and wresting themselves like a heap of earth worms, crawling some over others, and striving as it were to creep upward and downward by turns, but without a directing faculty."<sup>2</sup> Notwithstanding this impossibility of conveying by words all that was suggested to the mind on making the observations contained in the fourteenth case, still careful examination and analysis of the reports, which were made at the bed-side of the patient, I hope will enable those who are interested in this matter, to satisfy themselves, that the vibratory indications mentioned, could alone have been produced by the peristaltic motion of the intestines; and if this be not admitted, then no other apparent cause remains to which they can be attributed. My object in detailing all the circumstances, however trifling, connected with the peristaltic mechanism of the friction vibra-

<sup>1</sup> Art. Peristaltique, Paris, 1819.

<sup>2</sup> Enquiries into Human Nature, &c., by Walter Charleton, M.D., p. 98, 4to, Lond. 1680.



tions, is to point out the probable improvement in our diagnosis from a knowledge of this cause of the friction phenomena, which sooner or later may be turned to account in practice.<sup>1</sup>

MM. Barth and Roger, probably following Dr Désprez, recognise the respiratory acts as the cause of the friction indications, but do not make mention either of artificial pressure, or of the peristaltic motion as causes of these. I will not, however, be so rash as assert that they are unknown to Dr Désprez, the results of whose observations these authors nevertheless seem to give; but I have not met with an account of any case similar to that which I have had the honour of communicating to the Society. (No. 14.) And the only author who notices the motions of the intestines as a cause of the friction vibrations, so far as my research has gone, is Dr Franz Zehetmayer of Vienna, who says, if the "surfaces of the serous membranes have lost their smoothness by lymphatic effusion, then a rubbing sound arises analogous to what is heard in the pleura or pericardium, only that in the abdomen is of course much weaker, in consequence of the *gentle motion of the intestines*, and the elastic or yielding nature of the parietes, which are not favourable to the origin of a more intense degree of friction."<sup>2</sup> Dr Zehetmayer's remarks appear to be nearly a condensed translation of the observations of Messrs Barth and Roger, who, as I have said, do not mention the peristaltic motion of the bowels as a cause of the friction vibrations; but whether or not the former author

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<sup>1</sup> That any peculiarity in the motion of the stomach, or great and small intestines, imparting a difference of character to the borborygmi, produced in these different parts, may, when the friction indications are present, enable us to detect the portion of the digestive canal affected, is perhaps not improbable.

The following continuation of M. Piorry's communication formerly quoted is interesting. He says,—“Du reste, je l'avoue, j'ai tiré fort peu de partie des bruits du péritoine recueilli par la stéthoscopie, dans la phlegmasie de la séreuse abdominale. Je crains même qu'on ait confondu avec les bruits certains frottemens que l'on entend lors des mouvemens inspireurs, dans l'abdomen et qui sont les conséquences de l'abaissement du diaphragme qui pousse les viscères par en bas. Ces derniers résultats (les bruits dont il s'agit) s'entendent dans l'état normal; le murmure en question est très fin, très distinct des borborygmes, très différens aussi du bruit que fait entendre le tœnia, bruit que j'ai signalé dans mon quatrième volume de Médecine Pratique, (angibromopathies.) Dans ce dernier il n'y a pas d'isochronisme avec les mouvemens de respiration; il est constitué par une série de sons saccadés et véritablement vermiculaire. . . . Pour moi dans l'état actuel de la science, les principaux signes physiques dans l'affection précédente, (peritonitis) sont la matité plessimétrique des épanchemens; la circonscription et la détermination du lieu où elle existe; le degré de cette matité en rapport avec la profondeur de la couche du liquide; le déplacement de celui-ci dans diverses positions, &c. &c.” I have never heard the normal “frottemens” mentioned by M. Piorry; and think it probable that the *bruit*, attributed to the tœnia by this distinguished author, may have had peritoneal friction for its cause.

It may also be observed that it is important that the vibrations, sometimes perceptible to the touch, accompanying borborygmi, be not mistaken for the peritoneal friction vibrations. The former want the accompanying rubbing sound of the latter, and are attended by loud sounds, tolerably well described by the term *borborygmi* used to designate such sonorous indications, especially if the voice be raised as the word is pronounced.

<sup>2</sup> Grundzüge der Percussion und Auscultation, &c. p. 104. Wien 1843.



means this species of motion, or simply the passive motion of the intestines, consequent upon the movement of the diaphragm and abdominal muscles, his statement, which is very short, and without details, is insufficient to enable me to form a decided opinion.

Of the value of the facts connected with the friction vibrations, it may be remarked, in conclusion, that they appear to have placed within our power an additional method of detecting the existence of an important and frequently fatal disease, often obscure by the ordinary modes of investigation, whether from peculiarity of idiosyncrasy, or from the co-existence of cerebral complication, by which pain, and its characteristic results, with reference to the position of the patient, and to the respiratory movements, may have ceased to guide the physician in his diagnosis. In such cases the physical signs, known to be independent of any such influences, may be found to present perhaps the only safe indications by which to form our opinion as to the nature and extent of the disease.

The following are the chief conclusions which may be drawn from the previous observations :—

That the mechanism by which the friction vibrations are produced is of three kinds, viz.

1. The respiratory movements,—of the diaphragm chiefly,—but also the action of the abdominal muscles. The vibrations being synchronous with these movements, though sometimes only developed during inspiration.

2. Artificial movement of the parts by pressure with the hand or otherwise. The vibrations corresponding in their rhythm to the movement produced.

3. The peristaltic motion of the intestinal canal,—imparting to the vibrations a peculiar, continued rustling, and creeping character to the ear and hand, corresponding to the vermicular motion of the intestines.

That the immediate cause of the friction vibrations is the rubbing together of two peritoneal surfaces, physically altered by the inflammatory process ; and although the effusion of lymph has been considered necessary for their production, it appears highly probable that at a prior stage of the inflammation, when the peritoneum is merely drier than usual, friction vibrations may take place.

That the more the surfaces are moistened, the less intense will be the friction vibrations ; and when a liquid effusion is sufficient to separate the surfaces, the vibrations will cease altogether at the part ; but by altering the position of the patient, so as to enable the liquid to gravitate to some other part, and thus bring the surfaces together again, the friction vibrations will be renewed, as in Case 14.

That the amount of motion between the inflamed surfaces, necessary for the production of the friction vibration, is very limited ; and that different modes of friction, as to rapidity and degrees of



pressure, may not only modify the intensity, but also the tone and quality of the vibrations.

That the present state of our knowledge does not permit us to connect any particular species of vibration with a certain physical condition of the peritoneum, although reasonable grounds exist for this expectation.

That although the friction vibrations are no evidence of the existence of adhesions between the peritoneal surfaces, it has not been proved, that in the case of partial adhesions,—and even when the adhesions are general, provided the effused lymph be recent, soft, and extensible,—an amount of motion sufficient to produce the friction vibrations might not occur.

That the respiratory abdominal friction vibrations are chiefly manifested at the upper part of the abdominal cavity, where its more solid contents are situated, and in the case of a large organic tumour,—and may be regarded as indicative of the inflammation existing over a solid organ or tumour.

That the indications from artificial movement of the parts have been perceived, both where tumours were present, and where the intestines alone, or along with the omentum, were the site of the inflammation.

That the peristaltic friction vibrations indicate that the peritoneum investing the corresponding portion of the intestinal tube is the part affected.

That wherever the peristaltic vibrations are *very distinctly perceived*, they may be regarded as indicative of a lively and free motion of the folds of intestine upon one another, and upon the parietes; and of few or no adhesions existing between them. At all events, it shows that the intestines are not generally adherent, nor matted together into an adherent mass, nor, to any great extent, adherent to the abdominal parietes.

That in cases of peritoneal inflammation in the upper portions of the abdomen simulating pleuritis—as in Case 15—the presence of *any degree* of the peristaltic friction vibration might very much assist us in the diagnosis.



presenting many not only to the interests, but also the safety and

of the whole.

It is, however, the position of the Government, that it has no

objection to the proposed measure, and that it is a matter of

internal management.

The Government is, however, of opinion that the measure

is not one of internal management, but one of external

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(20)

HINTS TO MOTHERS

AND OTHER PERSONS

INTERESTED IN THE

MANAGEMENT OF FEMALES

AT THE

AGE OF PUBERTY.

BY

JONATHAN TOOGOOD,

LICENTIATE OF THE ROYAL COLLEGE OF PHYSICIANS, FELLOW OF THE  
ROYAL COLLEGE OF SURGEONS, AND SENIOR MEDICAL OFFICER  
OF THE BRIDGWATER INFIRMARY.

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1845.



# HINTS TO MOTHERS

INTRODUCTION

## MANAGEMENT OF TEENAGERS

### CHAPTER I. AGE OF PUBERTY

JOSEPH L. JONES



## HINTS TO MOTHERS,

&c. &c.

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IT is generally admitted, by those who have attentively considered the subject, that the disorders incident to young females at the age of puberty demand especial care; yet no derangements of the system are more frequently neglected, or less understood, by those whose duty it is to watch the extraordinary change in the constitution which marks that period. Parents and those who have the care of young females cannot be too strongly admonished, carefully to observe and prudently to conduct the management of them at this critical age. If, in the course of an extensive practice of forty years (affording, perhaps, an unusual degree of experience in the diseases of women), one fact has been more forcibly impressed on my mind than another, it is, that future health and comfort, or protracted suffering or misery, will mainly depend on the course taken at this most important period of life. Parents seldom appear sufficiently alive to the lamentable consequences resulting from inattention or improper management at this crisis; and this is not to be ascribed to neglect or apathy, but to an ignorance of the course which probably would guide the female constitution into a general state of health, and prevent those evils



# HINTS TO MOTHERS

INTRODUCTION

## MANAGEMENT OF FEMALE

### AGE OF PUBERTY

### JOSEPHINE TOWN



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IT is generally admitted, by those who have attentively considered the subject, that the disorders incident to young females at the age of puberty demand especial care; yet no derangements of the system are more frequently neglected, or less understood, by those whose duty it is to watch the extraordinary change in the constitution which marks that period. Parents and those who have the care of young females cannot be too strongly admonished, carefully to observe and prudently to conduct the management of them at this critical age. If, in the course of an extensive practice of forty years (affording, perhaps, an unusual degree of experience in the diseases of women), one fact has been more forcibly impressed on my mind than another, it is, that future health and comfort, or protracted suffering or misery, will mainly depend on the course taken at this most important period of life. Parents seldom appear sufficiently alive to the lamentable consequences resulting from inattention or improper management at this crisis; and this is not to be ascribed to neglect or apathy, but to an ignorance of the course which probably would guide the female constitution into a general state of health, and prevent those evils



which in after-life prove the source of most of the diseases incident to the sex. This inattention is not confined to parents, who may often be excused, from their imperfect knowledge; but it is an undeniable truth that medical men (perhaps from motives praiseworthy in themselves, but most injurious in their consequences,) too frequently avoid such inquiries as are in many instances necessary to ascertain the condition of these natural functions, upon which the enjoyment of health in a considerable degree depends. This conviction, founded on long professional practice in the diseases of females generally (and in that class of diseases consequent on the constitutional change which occurs at the age of puberty in particular), induces me to offer such hints to the consideration of those who are entrusted with the care of the young and inexperienced female, as may enable them to prevent many of those evils which convert the season of youth into one of disorder and suffering, and too frequently exercise a baneful influence on the whole sum of future existence.

When a girl from her thirteenth to her fifteenth year complains of fulness and tension or pain in the breasts, headaches, sometimes a slight degree of sickness, pains in the abdomen and loins striking down the thighs, debility, often giddiness in the head, heaviness and weakness of the eyes, with a faint bluish circle under the eyelids, her guardian should watch over her with ceaseless care, for in general one or more of these symptoms denote that her constitution is about to undergo a critical change. Hysterical and nervous affections also often precede or accompany this state. The periodical discharge to which women are liable, and which is known by the term "the catamenia," may now be expected; and although it is not necessary to employ any means to promote it, nevertheless it is of the greatest consequence to avoid everything which may ob-



struct this salutary effort of nature. Irregularities of every kind should be strictly avoided; late hours, long confinement in crowded places should be strictly prohibited, as well as everything calculated to disturb the mind and body; above all, cold, and especially humid cold. The diet should be plain and simple, and the bowels must be carefully regulated by the mildest medicine, if any be required. A safe course will be to keep in bed for a day or two, as soon as the discharge commences, which, in a healthy and natural state, would continue from three to five days.

The expected change having thus taken place, under the most favorable circumstances, the same watchful attention will still be requisite for some months, to ensure the permanent establishment of healthy function. The necessity for this continued care cannot be insisted on too strongly, lest it be but lightly regarded, and a deviation from a natural state unheeded, until the altered countenance and enfeebled health of the young female begin to excite apprehensions in the minds of her friends, that some serious disease is impending. Now, if there be any relaxation of that superintending care so essential at this eventful period, many sad effects are liable to follow, which may not only mar prospects of future happiness, but entail lasting affliction.

The first and most serious, because the least within the power of remedy, will be an imperfect development of the form, perhaps accompanied by distortions of the spine, the chest, and the pelvis. But if the sufferer escape these more serious diseases, she will be liable to one of so insidious a nature, that it often steals unconsciously on before the parent is aware of its existence, until it forces itself on the attention by assuming a threatening aspect. This disease is known as chlorosis, or the green sickness, and of very common occurrence. It often commences by a very slight



derangement of that discharge already alluded to, yet not sufficient perhaps to attract notice, until some of the following symptoms force themselves on attention: Listlessness and indisposition to exertion; increasing sedentary habits; paleness of the countenance, general surface, tongue, and gums; occasional recurrent pain in the head and side; fluttering and palpitation of the heart, with nervous and hysterical paroxysms; breathlessness, and sometimes sudden and distressing difficulty of breathing, resembling asthma; faintness on exertion, particularly on ascending a hill or stairs, with trembling of the knees and legs, which are sometimes swollen, with a varicose state of the veins; puffiness of the countenance, chiefly observable in the eyelids, especially the upper lid; splitting and exfoliation of the nails; with a depraved or capricious appetite. These symptoms do not follow in the order enumerated; but if the disease be allowed to go on unchecked, locked-jaw, clenched-hand, and other spasmodic affections, more difficult to relieve, not unfrequently succeed. Irritability and unevenness of temper sometimes accompany this state. On closer examination, the discharge will be found to be irregular in return, defective in quantity, and pale in colour. Enlargement of the breasts, and occasionally tumours of such a size and character as to excite serious apprehension, are discovered in this disease, during the progress of which the bowels are generally loaded and confined.

At length some of these symptoms alarm the patient or her friends, but not perhaps to such a degree as to induce them to seek medical advice. Domestic treatment now commences, in which the mother is assisted by the opinions of her neighbours. The altered countenance—sometimes exhibiting a yellowish, at others a greenish tint, and sometimes partaking of both—favours the idea that the indisposition is attributable to some error in the secretion of bile;



the liver is accused of being the cause of all the suffering, and for the relief of this imaginary bilious disease, calomel and drastic purgatives are incautiously administered, and freely repeated. But the expected amendment does not follow; and after this plan has been carried to a dangerous extent, the patient is left in a debilitated and exhausted state, worse, in fact, than when this erroneous mode of treatment was undertaken. That such a condition should be mistaken by non-professional persons is very natural; for the jaundiced countenance and other attendant symptoms require the discriminating judgment of an experienced practitioner: and it is a well-known fact to those who have made chlorotic diseases their study, that they are very apt to simulate other affections, as diseases of the brain, of the heart and respiratory organs, as well as of the liver.

Painful menstruation is often another very distressing symptom. This function, which should be performed naturally with such little constitutional derangement as scarcely to be felt, is attended with so much suffering that the returns are looked forward to with dread, as well indeed they may. I have often seen young women writhing about in intense agony from this cause, and have formerly deeply lamented my inability to point out a method of affording effectual relief, particularly in those habits which will not bear the exhibition of opium. And even now I scarcely know a more intractable disease, although it is one to which I have given much attention, and in the treatment of which I have sought assistance from an extensive acquaintance with medical men. The remedy which relieves in one case totally fails in another, although no difference of constitution may be perceptible. Local bleeding, either by leeches or cupping, generally affords the most effectual relief, but this cannot be always resorted to.

This disease is not, as some suppose, confined to the deli-



cate and luxurious, but is common in every situation of life—no class being exempt. I now purpose to notice some of the affections which accompany the chlorotic state, and to elucidate them by cases which have fallen under my own observation. These affections require the nicest discrimination, as error in the treatment may lead to a fatal termination. And, first, of those which affect the head:—

J. B., a lady aged twenty, several years since suddenly became low, desponding, and hysterical, having previously enjoyed good health, and been of a remarkably cheerful disposition. She gradually recovered from this state, with very little treatment. It was observed, however, that she became pale, and never recovered her colour. About two years since she became ill whilst on a visit in London, was low and hysterical, frequently shedding tears profusely, and saying she should never recover. She got better, on her return home, under the use of tonics, chalybeates and mild purgatives. On Tuesday, December 5th, she complained of violent headache, for which she took some domestic medicine, and the next day applied for advice. She was then observed to be very pale, low, and constantly shedding tears, but still complaining of her head. She was considered chlorotic: a purgative was directed, and leeches were applied to the head, with so much relief, that she wished to accompany her sisters to a party in the evening. On the following morning she still complained of her head, and suddenly had a violent convulsive attack: her features were drawn on one side, she lost the power of her right arm and leg, the pupils were largely dilated, and she was unable to articulate. She was bled from the arm and head freely, with relief, and recovered partially, but was not able to speak distinctly, or to grasp with her right hand. She still felt pain in the head, but expressed herself as being much better. In the evening she had a second attack, resembling



apoplexy, and became quite insensible, with stertorous breathing. The usual treatment was actively employed, without the least relief, and she died at four in the morning, eight hours after the second attack. A post-mortem examination was made at eleven o'clock. The features were so changed, that her friends could not recognize her. The whole surface was extremely pallid. The only morbid appearance which could be discovered on a careful dissection of the brain, was some serous effusion under the arachnoid membrane, but in every other respect it was healthy and firm. There was a slight effusion into the right side of the chest, and adhesions to the pleura, the heart was large, but the lungs and all the other viscera were in a healthy state; and there were no other marks of local or general derangement which were not strictly applicable to a defective performance of the functions which it is the object of these remarks to explain.

On Monday, August 12th, 1839, I was consulted on the case of a lady who was stated to be about two months advanced in her first pregnancy, and suffering from sickness and vomiting more severely than usual under such circumstances, attended with pain in the head, and sensation of great weakness. From the description, I apprehended that the symptoms could not be referred entirely to that cause, and hinted the probability of some affection of the head existing at the same time. In consequence of this, I was desired to visit her on the following day, when I found her suffering from almost constant sickness and vomiting, with considerable pain in the head. She was bled, and directed to take aperient and saline medicine. The next day (Wednesday) she was but little relieved: leeches and cold lotions were applied to the head, aperient medicine was repeated, in spite of which the sickness and pain in the head continued much the same. On Thursday morning I found



she had passed a very restless and sleepless night; and her husband imagined that she muttered or spoke indistinctly, or was unable to express what she wished, but of this he was not certain. The pulse, which had never exceeded ninety, was observed on this visit to be irregular, and the beat very unusual, sometimes being full and strong, and at others small and intermitting; there was, however, no heat of the head, or suffusion of the eyes; nothing particular could be remarked as to the state of the pupils, there was no intolerance of light or sound, and the skin was quite natural. At this time she frequently yawned, and could not support the erect posture for any length of time. She was bled, to the amount of twelve ounces, which lowered the pulse; she became faint, and remained so for upwards of an hour, after which the pain was relieved, but the sickness continued. Friday: she slept very little during the night; complained but slightly of her head, the sickness and sensation of weakness and exhaustion being most felt; she frequently yawned and coughed, which terminated in sickness. Small doses of carbonate of ammonia and a little wine were given with arrowroot at intervals during the day, and she retained more on her stomach than at any time since the attack, and by the evening all pain had entirely disappeared. At night she took three grains of carbonate of ammonia with one of opium, which procured three hours' sleep; but the sickness and vomiting returned at intervals. On the whole, she had more sleep during that night and the next day than at any time since her illness; retained more food on her stomach, and no longer complained of pain, but still of great exhaustion and weakness. At nine she got out of bed, walked alone into an adjoining room, whilst her bed was making, and on taking some arrowroot again vomited. After this she slept tranquilly for four hours, when she got out of bed, attempted to walk, but



was unable to stand, talked incoherently for a short time, and on being replaced in bed she lay perfectly still, with her eyes open, and complained again of pain in the head, but was not sick. I found her, between seven and eight o'clock, lying still, sensible, but roused with difficulty, could speak, and drank a cup of tea, soon after which she became quite insensible, had convulsions at one, grew hourly worse, and died early in the morning. A post-mortem examination was obtained a few hours after. The membranes and surface of the brain were generally healthy, the vessels rather more gorged with blood than usual, and a little more fluid escaped during the examination than natural. On cutting into the substance of the brain on the upper and posterior part of the left side, a portion of the structure was found much softened, of a dark colour, in some places from purulent infiltration. The network of veins in the interior of the left side of the brain (known as the plexus choroides) much distended, and containing minute cysts; other portions of the internal part of the left side of the brain (corpus striatum) very much softer, and more vascular than usual, and apparently undergoing the same changes as described above. As this lady was an entire stranger to me, I had no means of ascertaining what her previous state of health had been; but I subsequently learnt that she had long been the subject of chlorosis, for which disease she had consulted two eminent physicians in London, from whose advice she had derived some benefit. It also appeared that a younger sister had shown symptoms of the same disease, which produced a more ready acquiescence in the proposal to examine the cause of death. The information thus obtained, led to a more determined course in her case, which was followed by the happiest results.

E. T., aged twenty-two, a nursery-maid in a respectable family, was admitted into the Bridgewater Infirmary on



Sunday, October 6th, 1844. She had been an out-patient of that institution about three years before, and after receiving some benefit, she left the Infirmary, believing herself well. For the last two years she had been gradually getting out of health again; her countenance had become very pale, she was extremely dull and inactive, easily fatigued and suffered from palpitation of the heart, and many other symptoms before described. In the early part of the month of September she went to bed as well as usual, and her mistress, on hearing a noise about an hour afterwards, went into her room, and found her stretched on the floor in a state of insensibility. Medical assistance was obtained, but nothing more was done than administering a stimulant. On the following morning, having recovered her senses, she stated that she remembered having felt a rushing in her head, and getting out of bed, but nothing more. She complained of pain and heaviness in the head; was bled, and took some medicine, and remained in bed about a week. Soon after this she again became worse, and on the 3rd of October she was observed to be more pallid than ever. On the evening of that day she went to the adjoining house on an errand, and fell down in the passage, where she remained for two hours, quite insensible, before she could be brought into her own house. She cut her head in the fall. On the following morning she recovered her senses, but had no recollection of the past. On her admission to the Infirmary on Sunday, she walked up the stairs without assistance, and described herself, for the next two days, as being better. She was up a part of Tuesday, walked about the ward, took her meals well, and was observed to be very cheerful. She went to bed at the usual hour, and on waking between six and seven in the morning, expressed herself to the other patients as being much better. About seven o'clock she was found dead by the nurse, the patient in the adjoining bed not



being aware of her death. Nothing more could be ascertained, on minute inquiry, than that she had occasionally been heard to breathe hard and moan during the night. The head was carefully examined a few hours after, when between two and three ounces of coagulated blood was discovered in the ventricles of the brain. On reviewing all the symptoms, my decided opinion is, that the fall would not have been attended with such serious consequences, if her general health had not been so weakened by her long-continued indisposition; and I feel equally confident that, had she been duly impressed with the seriousness of her former illness, and had pursued a proper plan as long as her medical adviser thought necessary, perfect recovery would have followed. This case strongly exemplifies the danger of giving up medical treatment when partial benefit is obtained, and before the cure is completed.

The following case will be found a very interesting one, and by no means so rare as may be imagined, although the affection is seldom so severe. A. B., dressmaker, had long been in weak health, until at length she fell into a state of confirmed chlorosis. Her irritability of temper at length rendered it necessary, in the opinions of those about her, to place her under restraint, and she was confined in an asylum for the reception of lunatics. As no benefit was derived from this step, and her general health became rather worse than better, she was returned, after a time, to her friends; when, fortunately, she was visited by a lady of high rank and great intelligence, who had witnessed the beneficial effects of judicious treatment in similar cases, and who applied to me, in behalf of this patient. I advised a cautious and regular perseverance in a plan which will be detailed hereafter, from which, after a reasonable time, she derived benefit. The following extracts from the letters of the lady who interested herself in this case, will give the



best description of her future progress:—"I really think that she has already benefited by the plan; her appearance is not so corpse-like, the headache less frequent, and the palpitation of the heart less troublesome, her spirits have also been less oppressed, though still under delusion. It is difficult to make her take pills regularly, as she is under an impression that all we give her is to put an end to her, and at other times she will try to get at the box and swallow them all at once." The report some time afterwards was in the following words:—"A. B. has perfectly recovered her health, and looks better than I ever saw her do. This case has almost exceeded my utmost hopes, for when she began the plan of treatment you advised, she was in a most deplorable state."

The foregoing cases are deemed sufficient to exemplify the affections in which the head is implicated. When the chest is the seat of the attack the consequences are equally, but not so speedily, fatal. It has been stated that chlorosis is often mistaken for disease of the liver, and sometimes for incipient consumption, in which it not unfrequently terminates; for during its continuance there exists a remarkable susceptibility to cold, which ought to be most strictly guarded against. The following cases are examples of this tendency:—

E. L., aged eighteen, had been long observed to look pale and delicate; but, as she made no complaint, and followed her usual occupations, little or no notice was taken of the alteration in her appearance. Being in attendance on another branch of the family, I drew her mother's attention to the subject; but as she insisted that nothing ailed her, I found much difficulty in persuading both mother and daughter that remedial measures were necessary. And here it may be remarked, that the natural disinclination of females to be explicit on these



points, forms great obstacles to arriving at the truth. An evasive answer is generally returned to every question, and the reluctant patient eludes inquiry, by assurance and reassurance that it is altogether unnecessary; and when the assistance of the mother is invoked to clear up the doubt, she often at once betrays her inattention to, or ignorance of, the real state of her daughter's health. The truth is seldom elicited on the first visit; but, if the inquiry be conducted with caution and, above all, with the strictest regard to delicacy, sufficient information is obtained to satisfy the mind of the physician, and lead to a successful mode of practice. This precisely happened in the present instance: for, on a second interview, mutual confidence was established, and such facts disclosed as verified my suspicions. The treatment which was adopted gradually benefited her so much, that she considered herself quite recovered; and having a great aversion to be thought an invalid, and to medicine, she could not be prevailed on to persist long enough to establish her health completely, and permanently, notwithstanding repeated warnings. I saw her on occasional visits to the family, and felt assured that she was relapsing into her former state. An invitation to a ball was too great a temptation to be resisted;—she caught cold, and was confined for a short time by an acute inflammatory attack, which terminated in consumption in less than a year.

A very similar case fell under my care soon afterwards, in which curvature of the spine preceded the attack on the lungs, which was slowly and painfully fatal. Many other cases may be adduced, all tending to justify a belief founded on experience, that, notwithstanding the constitution may be set right, and the health and natural functions apparently restored, yet, unless the means from which so much good has already been obtained be continued until



the recovery is confirmed, danger is still to be apprehended.

A young woman aged nineteen, far advanced in consumption, fell under my care, at the Bridgewater Infirmary about two years since, from whom I learnt that she had lost a sister in the same disease a year before. The catamenia had never appeared in either. She was accompanied by another sister, somewhat younger, whose countenance betokened that she had passed the first stage of chlorosis. I pointed out the necessity of the immediate and complete separation of these two sisters (having seen so many proofs of the infectious nature of this English scourge), and directed such remedies as showed, after a short time, by her amended looks and improved form, that she was on the point of being restored to health. She menstruated for the first time in two months, and has been quite free from complaint ever since.

The action of the heart is sometimes so greatly disturbed in this disease, as to lead to the belief that it is the seat of organic mischief, and the cause of all the patient's sufferings. Medical practitioners who have not paid much attention to this class of diseases, often form erroneous opinions in such cases, and are consequently foiled in their treatment. Chlorosis often simulates other diseases besides the foregoing, of which the following cases are examples:

A young lady from Cornwall consulted me for an affection of the heart, which was considered, by herself as well as her friends, to be entirely organic; and this opinion was strengthened by the failure of all the remedies which had been employed for her relief, and which appeared to aggravate her complaint. Local and general bleeding, calomel and other purgatives had been repeatedly tried, with counter-irritation, digitalis, sedatives of various kinds, and low diet. I was much struck with the extreme pallor of the countenance and ex-sanguineous appearance of the tongue



and gums. Very slight exertion was attended with breathlessness, faintishness, and violent beating of the heart; the legs were swollen, and great debility was present. On entering into an examination of the case, I inquired the state of the catamenial discharge, but it was immediately checked by the assurance that it was unnecessary, as the point had been attended to, and that her condition was natural. After much trouble, the truth was arrived at; and her case proved to be one of long-standing and confirmed chlorosis, from which she entirely recovered, under very different treatment, and she has enjoyed excellent health ever since.

A lady at Liverpool consulted me by letter on her daughter's case, who was represented to be suffering from a spasmodic affection of the trachea, resembling croup, which recurred frequently, and greatly distressed her. It was accompanied with so violent a pulsation of the carotid arteries, as to be evident to the bystanders. In the course of our correspondence (in which this lady displayed acute observation and great good sense), it appeared that many of those symptoms which attend the derangement of the health of young females, were also present. A suspicion was thus raised in my mind that these harassing symptoms might arise from a remote cause; and on my suggesting a more minute investigation, there appeared good grounds for such an opinion; for, although the returns were regular in their periods, the discharge was so scanty in quantity, and defective in colour, as to satisfy me that the best plan of treatment was such as would be calculated to restore healthy functions in this particular. Under this system, all her distressing maladies disappeared. In this instance, too, great difficulty existed in persuading both the mother and the patient that any connexion could exist between such dissimilar affections; and as this case did not occur in rail-



road times, which approximate the physician and the patient, a personal interview—which is always most desirable—could not be obtained without inconvenience. This, however, did not appear to the patient an important objection; she afterwards induced several of her friends who resided in Ireland, to consult me, by representing the benefit she had derived from the treatment adopted.

In the course of this disease there is sometimes such œdematous swelling of the lower extremities, as to excite apprehension of dropsy; and indeed the doughy state of the surface and enlargement of the abdomen seem to confirm that opinion, particularly as the secretion of urine will often, at the same time, be found to be very scanty. A well-marked case of this kind has lately occurred in my practice. The patient, who was about twenty, had been gradually becoming weak, without any cause which was apparent to her friends. Being on a visit to a medical friend, she tried the effect of different preparations of iron and steel, without deriving any positive benefit, but her complaint remained stationary. At this time she received a very severe shock by the unexpected and sudden death of a relative in her presence, under awful circumstances. All her complaints became aggravated immediately: the œdema—particularly of the legs—increased amazingly, and she lost all appetite, the secretion of urine was greatly diminished, her countenance was death-like, and her state appeared truly alarming. I treated her on the same principle which had succeeded in so many other cases. Her recovery was extremely slow; and so great was the tendency to relapsing into the same state, that she required medical treatment for more than a year before her convalescence was established.

It sometimes happens that the expected change in the constitution is delayed beyond the usual period, and that females arrive at the age of eighteen or twenty, and, in



some cases, even later, without the slightest appearance of menstruation. Such persons invariably present a sickly, feeble aspect, and are unequal to the usual occupations of domestic life. Their growth is stunted, and the form very imperfectly developed. The following is a remarkable instance: G. A. had passed her twenty-first year without exhibiting any of the usual signs of puberty; her countenance was pale and sickly, and her size diminutive. Her friends had tried many remedies of reputed efficacy, and particularly Widow Welch's pills, (which were much in use in this neighbourhood some years since,) without deriving any benefit. I could not hold out much expectation of relief in this case, but advised a course of mild aperient and tonic medicine to be persevered in for a considerable length of time. At the expiration of three months there was so decided an improvement in her general appearance as to encourage a continuance of the plan, with such further treatment as I had found successful in other cases. In two months more there appeared a reluctant attempt at menstruation, which became perfect about a year afterwards. Her form had undergone a complete change: she became womanly, was married, and has had several children.

A pretty general idea prevails that irregular and painful menstruations are cured by marriage. That this is frequently true, cannot be denied, but it is by no means a constant effect; for chlorosis is often seen in married life, and where the uterine functions have been deranged for years in early life, conception rarely takes place until they are restored to a healthy state. Some years since, my opinion was requested on the case of a lady who had been long married, and was disappointed in the expectation of a family. She had always suffered from irregular and pain-



ful menstruation. The periods were generally very distant, and extremely uncertain; the discharge at one time was very scanty, and at another immoderately profuse. Notwithstanding, her general health was so good, that it appeared extraordinary to her friends that the much-wished-for event did not take place. Believing that such cases are often remediable, I encouraged her to pursue a regular course of treatment, which, after a very considerable period, led to her becoming a happy mother. I cannot help thinking that such cases would be more frequently successful if entire confidence existed between the patient and her medical adviser.

An opinion too generally prevails, that the treatment of this disease is very simple, and well understood, and that recovery seldom fails to succeed the exhibition of active doses of calomel and drastic purgatives, followed by repeated and often large doses of iron and steel. To this end, Griffiths's steel mixture is constantly prescribed;—an excellent medicine, if judiciously administered. But it must be evident to all who give the subject the consideration it deserves, that the same treatment cannot be equally applicable in every case. There can be no doubt that aperients and tonics—particularly some of the preparations of steel—are the remedies from which relief is chiefly to be obtained; but in a disease which presents itself under such various forms, and is attended with multiform complications, these must require such modifications in the administration, as can only be safely determined on enlarged experience; under the guidance of which, if such medicines are conjoined with proper regimen and other auxiliaries, they will seldom fail to effect a cure. It is by no means an uncommon practice to increase the strength of the tonic, in proportion to the debility of the pa-



tient, than which there cannot be a greater or more dangerous error. It often occasions serious inconvenience, and sometimes acute inflammatory attacks, which endanger life.

It may appear to some that I have entered too minutely into detail, and have attached too much importance to complaints which, being of frequent occurrence, are, as they may suppose, more likely to occasion inconvenience than danger. To such persons I can only say, that, having witnessed so much misery and so many fatal consequences from warnings having been neglected, which would have claimed the earliest and most anxious attention, if their importance had been known, I am strongly impressed with the duty of stating, that conviction, which is the result of considerable experience. I am likewise perfectly aware that objections of another description might be taken, founded on the delicate nature of the subject, and the usual unsatisfactory results of blending professional with popular remarks. To such objections I cheerfully submit, having deliberately taken a course which can hardly be otherwise than useful, if it should induce a more early and cautious attention to the symptoms detailed, than has been hitherto conceded to them.

In conclusion, I would press on those to whom these pages are addressed, that even the slightest deviation from a natural state, in females of the age referred to, should not be permitted to pass unnoticed. If it ever be true that prevention is better than remedy, it is undeniably so in such cases; and, unfortunately, these cases are so common, that it is scarcely possible to enter a family of three or four girls, in which one or more will not be found to be suffering from some kind of uterine derangement. That mother will best consult her own happiness, who devotes



particular attention to her daughter's health at the time when her experience and fostering care will be most needed. By so doing, she may spare herself months—perhaps years—of anxiety, and save her child from great suffering and misery; and she may have the gratification of seeing her in the enjoyment of blooming health, instead of becoming the victim of insidious and, too often, fatal disease.

Bridgwater, May, 1845.



