

[Dr. Hawkins here referred further to the comparative rarity of purpura in typhoid fever. He continued:]

I now come to the condition of the bowels and the frequency of the stools. This is one of the difficulties with which we have most to contend. The notes of the case mentioned the presence of tympanitis over the regions of the colon, indicating distension of that part of the bowel. Now in several other cases in which I have detected this condition, which is nearly always associated with profuse diarrhoea, extensive ulceration of the colon has been found at the necropsy. Diarrhoea is the rule in typhoid fever, constipation the exception; but it must also be remembered that there may be diarrhoea for a few days—say, the first five or six—followed for one or two weeks by the most obstinate constipation, demanding enemata for its relief. This latter condition is much more common than constipation throughout. The bowels may be moved from twice to twelve or more times in the twenty-four hours. In addition to frequency of the stools we have here had to contend with hæmorrhage from the bowels, and this symptom demands more than passing attention. Graves was the first to teach that hæmorrhage from the bowels in typhoid fever might be a favourable symptom rather than an unfavourable—he regarded it “as a wise provision of nature which might usher in a favourable crisis, but as an occasional result it was of great danger.” Trousseau for some time held that it was a formidable symptom and increased the danger, but after reading Graves’ lectures he changed his opinion and stated “that as a symptom intestinal hæmorrhage did not possess the dangerous character imputed to it, but that it was usually of a favourable augury.” Sir William Jenner writes: “Hæmorrhage from the bowels is a very grave symptom, but it is by no means necessarily fatal.” And Sir William Broadbent, writing in Quain’s Dictionary of Medicine, tells us that, while intestinal hæmorrhage is a symptom which causes anxiety, it is by no means necessarily fatal. Murchison regarded it as a very formidable symptom, but Habershon wrote: “It is in my experience rarely fatal.” Some time ago I made an investigation relative to this important symptom with the object of finding some basis for forecasting the issue of cases associated with it. A glance at this tabular statement will show that up to the age of twenty more cases recover than die, and that between twenty and twenty-five nearly as many cases die as recover, but that between twenty-five and thirty more recover than die. After the age of thirty more die than recover. We have, therefore, so far as age is concerned, some data for making a prognosis, for, speaking

Tabular Statement of Ages at which Hæmorrhage from the Bowels occurred in Typhoid Fever, showing the Ages of Non-fatal and Fatal Cases.

Years of age.	Total number of cases.	Non-fatal cases.	Fatal cases.
At and under 5 years of age ...	0	0	0
“ 10 “ ...	1	1	0
“ 15 “ ...	8	7	1
“ 20 “ ...	11	8	3
“ 25 “ ...	15	8	7
“ 30 “ ...	9	7	2
“ 35 “ ...	9	3	6
“ 40 “ ...	2	0	2
“ 45 “ ...	3	1	2
“ 50 “ ...	2	0	2
“ 55 “ ...	1	1	0
“ 60 “ ...	0	0	0
Total	61	36	25
		61	

broadly, one may say that up to the age of twenty the symptom is less indicative of danger than it is after that age. In non-fatal cases hæmorrhage usually occurs but once—that is to say, only at one period is blood seen in the stools, and it may vary from a few streaks to one pint. A single hæmorrhage occurred in seventeen out of twenty-eight non-fatal cases. Hæmorrhages in fatal cases are more frequently recurring. Of twenty-four fatal cases there were but three instances of a “single occurrence”; but when these recurrent

hæmorrhages are fatal we have no data to guide us, for in both fatal and non-fatal cases the recurrences may be equal in number and frequency. Hæmorrhage associated with perforation is always fatal, and is more frequently recurrent. When a hæmorrhage of the single type has occurred comparatively early in the course of the fever, and for a while the patient seems to have passed the danger point, hæmorrhage of the recurrent type may occur later, from which the patient dies. With regard to the time of the occurrence of the hæmorrhage there is practically no difference. I must lay stress upon this, for many persons think that hæmorrhage early in the course of the fever is not fatal. So far as my own observations go, data of this kind are not reliable, neither does the quantity of the blood passed help much in guiding our judgment, for in non-fatal as well as in fatal cases the quantity may be large or small, and we must further remember that, while the quantity passed by the bowel may be small, a large quantity may remain in the intestine.

I must be brief as to treatment. The patient was at first put on a purely milk diet, but shortly afterwards he vomited curdled milk, and in the stools there was also undigested milk. This form of diet was therefore stopped, broths being given, and during the time of the hæmorrhage raw meat juice. Milk, if a patient can digest it, is by far the best diet, yet it should not be unduly pushed when, as in this case, there is evidence that it does not agree. In fact, it may do harm not only by causing sickness, but also by increasing the diarrhoea. For checking activity of the bowels I prescribed bismuth and compound powder of ipecacuanha. However, I am bound to admit it has not answered my expectations. Starch and opium enemata were then ordered, but as this did not check the activity of the bowels I ordered opium by the mouth in addition; by this combination I succeeded in diminishing the frequency of the stools. During the attack of hæmorrhage, in addition to slightly increasing the dose of opium an icebag was placed over the abdomen, and more especially over the right iliac region, suspended from a cradle so as to touch the abdomen lightly and to be removed at intervals. The hæmorrhage eventually ceased. In some instances the cold pack is of great use, but in this case the temperature had never been higher than 102° and therefore in my opinion did not require any special treatment. Stimulants were not administered at first, but a few days after admission the pulse became not only irregular, but also intermittent, and brandy was therefore given. So soon as the desired result was obtained it was stopped, but latterly it has been given regularly because there are indications of cardiac failure.

Reading.

A CASE OF TETANUS TREATED WITH TETANO-ANTITOXIN, AND A REVIEW OF THIRTY-EIGHT OTHERS.

By F. HERBERT MARSON, M.D. DURH., F.R.C.S. ENG., LATE HOUSE SURGEON TO THE STAFFORDSHIRE GENERAL INFIRMARY.

I HAVE to thank Mr. Weston, senior surgeon to the institution, for permission to publish the following case.

On Nov. 10th, 1894, a man aged twenty-eight was admitted to the Staffordshire General Infirmary with a compound fracture of the first phalanx of the left thumb, and complaining of slight stiffness of the masseter muscles. The injury to the thumb, which was slight, had been received ten days previously and had been medically treated from the first. The stiffness of the jaws had only commenced on the morning of his admission. The patient was a strong, healthy man. His pulse and temperature were normal. There was slight stiffness of the jaws. The wound, which was small, did not look healthy. He was put on five grains of quinine every four hours and a quarter of a grain of extract of physostigmine hypodermically every six hours. On the 13th his condition remained practically the same; the pulse was normal and the temperature never exceeded 99·4° F. He could open his mouth about half an inch. As the wound still looked unhealthy the thumb was removed. On the 14th, on account of the cardiac

depression that the physostigmine was supposed to be causing, chloral and bromide of potassium were substituted. On the 15th physostigmine was recommenced. During the last three days the condition had remained unchanged, with the exception that there had been very slight twitchings of the muscles of the left arm and the side occasionally, and the stiffness had extended to the muscles of the neck. On the 16th the physostigmine was stopped. The pulse was normal and the temperature had been subnormal from the 13th up to this date. At 11 A.M. there was a slight spasm, which was principally confined to the diaphragm and the muscles of the larynx, and only slightly affected the muscles of the legs and back; at 12.30 thirty-four grains of tetano-antitoxin were injected, to the strength of one grain to eleven minims of water; this was injected at two points in each extremity without an anæsthetic, the needle and syringe having been previously sterilised. At 8.30 P.M. the temperature was 101.6° and the pulse 132. The patient seemed better; the cervical muscles were less hard, and he could open his mouth wider and put his tongue out slightly. Antitoxin (thirty-four grains) was re-injected. From the 16th until the termination of the case the pulse, which had previously been normal, rose, and oscillated between 116 and 152. On the 17th the temperature was 98.4° and the pulse 120. There was a rather severe paroxysm of convulsions threatening asphyxia by spasm of the glottis. At 8 P.M. there had been no recurrence of the spasms. The patient was more cheerful, the muscles of the neck were softer, and he could open his mouth better. Antitoxin (twenty-eight grains) was injected. On the 18th, as the spasms were much better and the muscles softer, it was decided to reduce the dose of antitoxin. Injections of the latter (eight grains) were given at noon and at 8.30 P.M. On the 19th the temperature was 98.2° and the pulse 120. There had only been two slight spasms during the last twenty-four hours. He was much better in himself and expressed a strong desire for a pipe. Antitoxin injections (eight grains) were given at noon and at 8.30 P.M. On the 20th the patient felt better and looked bright. Antitoxin (eight grains) was injected at 8 A.M. The temperature rose to 103°; there were no spasms. On the 21st, as the spasms had ceased and the muscles of mastication were more relaxed, the antitoxin was discontinued and five grains of quinine three times daily were ordered. The temperature in the evening was 103°. On the 22nd the temperature was still 103° in the evening; the patient was rather restless, but quieted down on being given bromide of potassium. On the 23rd the temperature was still 103°. The patient did not know anybody, tossed about, and was delirious. There were symptoms of commencing endocarditis. On the 24th he was better; there was no delirium, but the temperature was still 103°. He was now in a typhoid condition. On the 25th the temperature was 104.2° and the pulse 128. He was sinking. On the 26th the temperature was persistently high. The heart was very weak and the pulse running. He was ordered tincture of digitalis and carbonate of ammonia. At 11 P.M. there were gasping respirations. He died on the 27th.

Remarks.—No necropsy was allowed. During the whole time he took his nourishment well, which consisted of a liberal allowance of milk, eggs, meat essence, and brandy in addition to tonic drug treatment. All the injections were given without an anæsthetic for the following reason. On giving the anæsthetic (ether) for the removal of the thumb the patient after a few inhalations became blue and ceased to breathe; prompt measures for resuscitation were employed, and he subsequently recommenced breathing. The probable explanation is that the tongue lolled back over the larynx, as the heart continued to beat although the breathing had ceased; the rigidity of the jaws prevented the mouth being opened. I mention this circumstance, as the injections are recommended to be given under an anæsthetic, and it is a condition that is not unlikely to happen again, and, may be, with a less favourable result. As many recorders of such cases note, it is impossible to draw reliable deductions from an isolated case, and I would make the same observation regarding this one. As the cases in which this new treatment has been tried are relatively few, I think it equally important that the unsuccessful as well as the successful ones should be reported. Taking this case alone, I should be inclined to draw many unfavourable deductions. It was undoubtedly a case of a very mild type. There appears to be no doubt that the antitoxin injections did have a marked beneficial effect on the rigidity and general condition;

this appeared a few hours after the first injection, and, so far as the spasms and rigidity were concerned, the benefit was permanent. There is one point I wish to draw particular attention to—viz., that in the opinion of the surgical staff the man died from septicæmia. The thumb was removed soon after his admission; although not healing by first intention, it took on a healthier tone, and never at any time subsequent was the appearance such as would account for the septicæmic condition. Every possible anti-septic precaution was taken; the hypodermic needles, &c., were carefully sterilised by boiling, and for a considerable time the hand was kept in a carbolic bath. The inference naturally arises, Did the septicæmia, if such he died from, have any connexion with the antitoxin injections? Upon this point it is impossible to speak positively; not a single recorder hints at such a source of death after injection. Against this supposition it is only right to mention that, with the exception of a slight temporary elevation after the first injection, the temperature remained normal for five days, during which time two injections were given daily. In spite of the unfavourable termination, and bearing in mind that it is only a single case, that a condition arose that has not been noted by any other observer, that it is possible it may have had no connexion with the antitoxin, and that apparently brilliant results have arisen in the practice of independent and unbiased observers, I should be very loth to condemn the treatment for one unfavourable termination.

I may say I have collected all the procurable published and unpublished cases of tetanus treated by antitoxin up to the present time, numbering thirty-eight, which show the following results. But I would point out that, in reviewing the mortality statistics in this disease, there appears to be some considerable difference of opinion, this arising in a great measure from some writers describing the disease as occurring both as an acute and chronic affection, whilst others seldom or never recognise it as occurring in a chronic state. The following analysis gives the number of recoveries and deaths of the cases treated with antitoxin:—

	Recoveries.	Deaths.
Total number of cases collected, 38, including cases that are only mentioned as having been treated, no further particulars being given	25	13
Number of cases treated of which particulars are given, 22	17	5
Number of cases treated, of which particulars are given and which were regarded by their recorders as "severe," 9	5	4
Ditto, "not severe," 13	12	1

I think the average mortality of tetanus in chronic cases may be regarded as 50 per cent., and in acute or severe cases as 90 per cent. I have arranged in the four following groups all the recorded cases of treatment of tetanus by immunised serum. Of the 38 cases collected, only 22 were fully reported; they fall under their respective heads as follows: (1) Cases in which the symptoms commenced to abate immediately after injection and then steadily disappeared, 9; (2) those which remained *in statu quo* for a short time after injection and then gradually improved, 6; (3) those in which no further muscles became involved in spasms after commencement of treatment, though occasionally an aggravation of certain other symptoms (as trismus and difficulty in swallowing) occurred, 2; and (4) those ending fatally notwithstanding treatment, 5. Space does not permit of a detailed notice of the cases, but in spite of the unfavourable result of the case treated in the Staffordshire General Infirmary I have come to the following conclusion. In my mind there is no doubt that the antitoxic serum has a favourable effect in certain cases of tetanus, and those not always of the mildest form. This serum may be justly called a remedy for the disease of such importance that up to the present time no other method of treatment can bear comparison with it. I am of opinion that the antitoxin serum is destined considerably to decrease the mortality in tetanic cases, and I do not doubt—although there is probably much to be learned and many details have to be modified or altered—that the hopes raised by it will be fulfilled.

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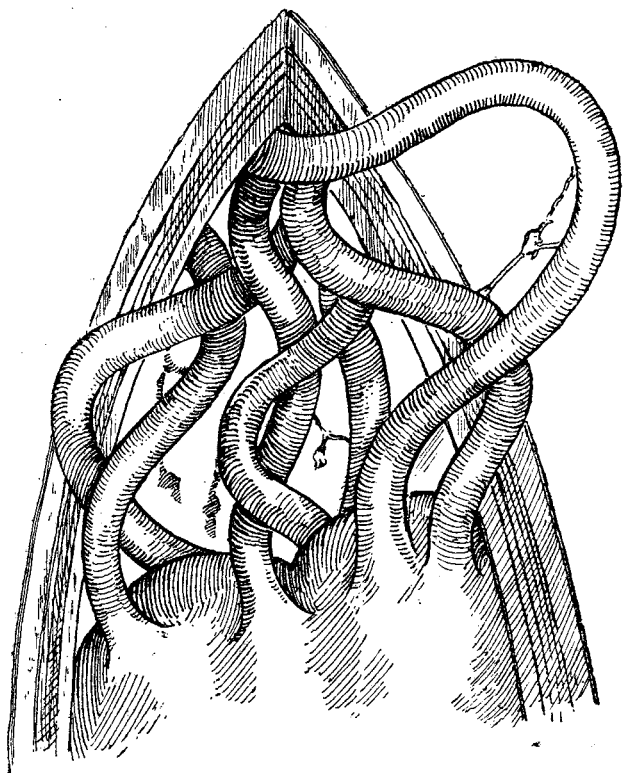
Clinical Notes :

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A RARE CONDITION OF THE OMENTUM.

By J. GREIG SMITH, M.B., C.M. ABERD., F.R.S. EDIN.,
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At an operation for the removal of a solid pelvic tumour performed on May 5th of this year a condition of the omentum was found which I have endeavoured to show in the accompanying sketch, life-size. On completion of the parietal incision, which was carried above the umbilicus, there protruded coils of vessels which exactly, in colour and size, resembled fat, well-developed earth-worms. They were hard, tense, and glistening, and looked so like worms that for a moment I was nonplussed, nor could my experienced assistant, Mr. Swain, or Dr. Michell Clarke, under whose care the patient was, suggest what they were. Prolongation of the incision upwards and a more close examination at once showed that they were the vessels of



the omentum. Here and there small tags of areolar tissue containing a little fat could be found on the vessels; but the whole omentum was transformed into a network of large vessels without any fat. A good many of the vessels were closely adherent to the tumour, these were tied in a bunch and divided. The rest of the omentum was left intact. The whole surface of the tumour was very vascular, and could not be handled without causing free bleeding. In spite of rapid delivery and the free use of large pressure forceps a great quantity of blood was lost before any tissue was divided. The bladder was embedded in the tumour, and its adhesions were more vascular than I have ever seen. The patient, a lady aged forty, had suffered severe pains for several years during the growth of the tumour, and was very thin. She made an excellent recovery. The exact nature of the growth has not been made out, probably it will turn out to be a myoma with sarcomatous elements.

Bristol.

FRACTURE OF THE CORONOID PROCESS.

By R. S. CHARSLEY, L.R.C.P. LOND., M.R.C.S. ENG.

A GIRL aged twenty was thrown out of a dog-cart through the wheel coming in contact with a large stone at the corner of a street. I saw her an hour after the accident.

She told me she had stretched out her arm to save herself and had fallen with all her weight on her hand. I found the right hand bruised and cut by the stones. The right elbow was very painful and I was for some time puzzled to account for the pain, all the bony prominences being uninjured and in place, the radius rotating freely, and the movements of the elbow joint being perfect, although accompanied by much pain. Pain was also produced by pressure on the head of the radius. I found, however, that when I grasped the lower end of the humerus in one hand and the forearm in the other, the latter being brought to a right angle with the former, a very slight amount of backward pressure produced a backward dislocation of the joint, the olecranon projecting considerably behind the humerus, and that when the pressure was reversed the joint slipped back into its place with the greatest ease. This proceeding I repeated once or twice, the dislocation being produced and reduced without the least difficulty. I placed a small roll of wool in the bend of the joint and secured it with a bandage round the joint and then put the arm in plaster of Paris with the elbow flexed till the bandage became fairly tight. In three weeks I commenced passive movement and obtained in the end a completely satisfactory result. I cannot account for these symptoms except by supposing that the coronoid process had become separated from the ulna by the fall on the outstretched hand. The great rarity of the accident makes the case worth recording.

Slough.

A CASE OF RAYNAUD'S DISEASE.

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A MAN aged twenty-five was admitted to the Royal Victoria Hospital, Netley, on Jan. 19th, 1895. He was invalided from Hong-Kong for malarial cachexia. He had served in China for three years, enjoying fairly good health except for frequent attacks of ague, accompanied by coldness and numbness of his extremities. On the voyage home a bluish discolouration of the lobe of the left ear was noticed, and his hands and feet became benumbed and very painful. On admission he was in a very cachectic state; the hands and feet were in a condition of extreme venous engorgement, oedematous, and of a purplish colour. This cyanosis implicated especially the toes and forepart of the right foot, the index and middle fingers of the left hand. The point of the nose, the lobe of the left ear, the left thumb and left great toe also became cyanosed; and at times the right ear was similarly affected. The discolouration of the ears and nose was of a recurrent character, frequently disappearing altogether. Anæsthesia existed in the affected parts, and for some distance above them. At first, however, intense pain was felt in the regions above the cyanosed parts. Gradually the oedema subsided, the livid marbling of the surface disappeared, and early in February half of the right foot, the plantar surface of the left great toe, and the index and middle fingers of the left hand became mummified, shrivelled, and black. A line of demarcation formed above the gangrened portion of the right foot, accompanied by a foetid discharge; but Nature made no effort elsewhere to throw off the diseased parts. Throughout the attack the pulse remained small and feeble; the temperature ranged between 97° and 101° F. The spleen was enlarged and tender. The other organs were normal. The urine was non-albuminous. On April 13th Surgeon-Colonel W. F. Stevenson removed the right foot (Syme's amputation) and the diseased fingers. The patient made an excellent recovery. Exposure at sea was the direct cause of the attack. Ague is a recognised factor in its etiology, and the patient's constitutional tendency to a stasis of the peripheral circulation was increased by his cachectic condition, which produced the lowered tissue vitality essential to the disease. Raynaud's three stages of local syncope, local asphyxia, and symmetrical gangrene were well marked; the case was characteristic in its etiology, progress, and result. The treatment was based on the symptoms—opium to relieve pain, and quinine and generous diet to remove the cachexia. The case was under the care of Surgeon-Lieutenant-Colonel H. H. Stokes, A.M.S.

Netley.