then rise suddenly to the "normal" reading of 98.4°, eventually falling again to the region of 97°. Since the temperature in such a case has not risen above the black line on the chart, little or no attention is paid to this variation, yet if the reading had overtopped the line by 0.2° or 0.4° the patient would be stated to have a "slight temperature," and a diligent search would be made for the cause. It would seem that there is a tendency, when dealing with individuals who are confined to bed, to forget that the temperature figure 98.4° F. is the "normal" for a healthy, active individual, and not for a patient who remains in the recumbent posture for a long period. If a patient calls at his doctor's house in the middle of the day and the temperature is found to be 99°, that patient is considered to be slightly febrile. It does not seem unreasonable to assume, therefore, that if the temperature of a recumbent individual suddenly rises from 97° to 98.4° that individual is also slightly febrile, despite the fact that the temperature has not risen above the conventional limit. Since the figure 98.4° represents the mean temperature of a person in active health, it need not also represent the mean temperature of a patient lying in bed. Further, if this figure be regarded, for the sake of convenience, as the upper limit of normality in active life, it does not follow that we are justified in regarding it thus in individuals who are confined to bed. It is possible, therefore, that there is some danger in the emphasis laid on the temperature reading of 98.4° by marking this figure with a heavy line on clinical charts, since, by so doing, no allowance is made for individual variation nor for the fact that the patient is physically inactive.

SUMMARY

The mean body temperature in a series of 250 non-febrile hospital patients who were confined to bed was found to be 97.2° F. at 7 a.m. and 97.45° F. at 7 p.m.

It is suggested that the heavy line marked on clinical thermometers and temperature charts corresponding with the figure 98.4° F. is misleading, since this figure represents the mean temperature in active life and not the upper limit of normality in a patient lying in bed.

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A CASE OF CARCINOMATOUS GASTRO-COLIC FISTULA SIMULATING ENTERIC FEVER

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During the first two or three weeks after this patient came under observation the clinical picture was very suggestive of enteric fever. The insidious onset, the gradual rise of temperature with, at first, a relatively slow pulse, the foul tongue, the diarrhoea, and the tympanitis all pointed in this direction. The persistently negative bacteriological and serological findings, however, made the provisional diagnosis of enteric seem increasingly improbable. The finding of pus cells and of undigested red blood corpuscles in the stools on December 18th suggested the possibility of an acute ulcerative colitis, it being assumed that the ulcerative process involved the upper half of the colon,

and thus accounted for the absence of tenesmus and explained the constant tenderness below the right costal margin. The possibility of diverticulitis or of carcinoma of the colon was also discussed, but it was felt difficult to explain the long-continued pyrexia on this basis without there being any palpable tumour, or any evidence of subphrenic abscess, and whilst there was a normal blood count.

The possibility of a gastro-colic fistula was also discussed, but it was thought that the absence of any vomiting, and still more of any faeculent vomiting or belching, almost put this diagnosis out of court. However, there was no evidence of any perigastric or subphrenic abscess to explain the pyrexia.

In spite of the valued assistance of three consulting physicians and of three pathologists, the diagnosis remained a matter of speculation prior to the necropsy.

CLINICAL HISTORY OF CASE

The patient, a professional man aged 52, was seen by me on the morning of December 7th, 1931. He had always been delicate, inclined to be neurasthenic, and subject to frequent intestinal disturbances, comprising alternate states of diarrhoea and constipation, for which he had tried numerous remedies. His health had much improved during the last ten years since taking liquid paraffin.

The history of the present illness began apparently three weeks before he took to his bed on December 7th, with slight "colly-wobbles," followed by loose motions, usually twice daily. During the last twelve days he had felt sufficiently depressed and ill to remain in bed for half the day. He had no headache, nor did he feel feverish until the evening of December 6th, when his temperature, taken by a medical relative, was found to be 99° F.

When first seen by me on the morning of December 7th the temperature was 98°, the pulse 80. Examination showed him to be a man of spare build. He lay quite comfortably in bed. The expression was composed, and mentally he was quite alert. The breath was foul, and the tongue thickly coated with white fur. Abdomen: slightly tumid, but moved well on respiration. Tenderness was present below right costal margin, and to a lesser extent above the pubes. Liver and spleen were not palpable. No masses were felt. There were no spots. Nothing abnormal was found in the chest and central nervous system. The pulse was soft, and easily compressible. Blood pressure, 100/70. Rectal examination revealed some ballooning of the rectum, otherwise there was nothing abnormal. Routine urine tests were negative. At 6 p.m. the temperature was 101°, pulse 100.

During the next few days the temperature gradually rose to 104°, the chart exhibiting the "step-ladder" effect described as typical of enteric fever. The general condition became weaker, his frame more shrunken, and abdomen more distended. He complained much of nausea during the first few days, but there was no vomiting. Two or three "pea-soup" stools were passed painlessly each day. A pathologist's report, dated December 13th, was as follows: "Agglutination reactions against the enteric, dysentery, Salmonella, and Brucella groups negative in all dilutions. Blood cultures proved sterile. A differential blood count was normal."

PROGRESS

On the 14th the patient twice passed considerable quantities of blood and clots per anum. Two stools passed on the 15th resembled dark pea-soup, and contained curds. There was no recent blood. The motions remained limited to two or three per day, and on no occasion were they associated with tenesmus. The agglutinations and blood cultures were again tried on the 18th, with negative results. No pus or organisms were found in the urine. The faeces contained large numbers of pus cells and some normal-looking red blood cells. Cultures from stools were negative for enteric and dysenteric organisms.

During the morning of the 18th the abdomen became greatly distended and rigid, and the respirations were noticed to be entirely thoracic. The patient was rather collapsed, and complained of general abdominal pain. Pulse 130 to 140. A surgeon was called in consultation, but during the afternoon the abdominal distension largely subsided and abdominal respiration

returned, there being also an improvement in the pulse and the general condition. It was considered that surgical measures were not indicated, and that an exploration would be inadvisable. During the day four or five extremely offensive stools were passed, containing curds and a few small clots. The possibility of ulcerative colitis was mooted. Gentle irrigations of the colon with saline were begun, followed by starch and opium enemata. Kerol capsules were given by mouth.

On the 22nd, as the patient seemed eager for a fuller diet, some slightly more solid elements were introduced. Charcoal was given with the object of relieving the flatulence and deodorizing the stools. At 6 a.m. on the 24th he suddenly collapsed, and became comatose, with a feeble, flickering pulse, and it was thought that death was imminent. At about 5 p.m., however, there was a dramatic recovery; the pulse became stronger, and his mental alertness returned. There was no material change in his condition during the next few days, and he remained quite free from pain. Diarrhoea was less frequent and offensive. The temperature varied between 100° and 103°. Pulse 130 to 140. Tenderness was still present under the right costal margin, and there was considerable epigastric distension.

After January 3rd, 1932, the course of the illness gradually became less favourable, and wasting and general enfeeblement were more apparent. By January 10th his condition was distinctly worse; abdominal distension persisted, and tenderness in the right hypochondrium was still present. There was no visible peristalsis, but the gastric outlines showed up clearly. Frequent hiccapping was a distressing feature of the illness at this stage. There was little diarrhoea, only one or two motions after each lavage. His vitality slowly but steadily declined, until death followed on January 21st.

POST-MORTEM FINDINGS

The post-mortem examination revealed a fistula connecting the stomach with the transverse colon. The fistula and the adjoining portions of the colon and stomach were matted together by a growth, apparently carcinomatous in nature. The stomach, fistula, and the colon distal to the growth contained quantities of charcoal. The small intestine, caecum, and ascending colon were completely empty.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

ETHMOIDAL AND FRONTAL SINUSITIS

The following case is one of unusual interest, both to the ear, nose, and throat specialist and to the general practitioner.

A boy, aged 6, was attended by the family doctor on account of swelling and redness of the left eyelids. I was asked to see the patient, and did so on January 19th, 1932. The left eyelids, more especially the upper one, were swollen and red, but no particular tenderness was present over the frontal sinus, either on the floor or over the anterior wall; only a little tenderness was elicited at the inner canthus. No tenderness was felt over the antrum. The conjunctiva was not involved by any inflammatory change. The temperature was 99.8° F. On examining the nose, pus was seen in large quantity in the left middle meatus, and to a lesser degree in the right middle meatus. The pharynx and ears were normal. On questioning the mother I elicited the fact that a similar condition had occurred the year before. At that time both eyes had been affected, but the condition had cleared up spontaneously. As the symptoms were not very acute, it was decided to keep the patient under observation.

On January 22nd the swelling of the eyelids had much diminished, but ocular paresis was present. The left eyeball was unable to turn laterally beyond the sagittal plane. Vision was normal for objects and printing. On careful palpation I was able to detect a swelling at the inner canthus. I considered an operation necessary, and Howarth's operation was performed that afternoon in hospital, under ether com-

bined with injection of the incision line with novocain-adrenaline solution. The frontal sinus was found to be full of pus, with polypoidal changes in the lining mucosa. The ethmoidal labyrinth was cleared out completely, and the sphenoidal sinus was opened up. A small abscess was found far back under the orbital periosteum related to the lamina papyracea of the ethmoid bone, and around this abscess there was much thickening. The inner orbital wall was removed well back towards the apex of the orbit and the superior orbital fissure. Finally, the middle turbinal was largely removed. A rubber tube was placed in position, according to Howarth's technique, after formation of a more anterior and direct fronto-nasal duct. The external wound was completely closed. On January 24th ocular paralysis had passed off; temperature was normal and the general condition good. The child made an uneventful recovery, and was discharged from hospital on February 13th.

The interesting features of this case are:

1. The extreme youth of the patient associated with such marked pathological sinus changes.
2. The exact causation of the ocular paresis. In my opinion this was due to a periostitis which spread backwards from the site of the abscess, which was related to the orbital surface of the lamina papyracea, and had caused a neuritis of the sixth nerve at the superior orbital fissure. This is probable, as this nerve occupies the most medial position of any of the structures in the superior orbital fissure.
3. The fact that the vision of the left eye remained unimpaired to visual tests throughout the illness.
4. The rapid disappearance of the ocular paresis which followed adequate surgical treatment.

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PERINEAL INJURY: TWO UNUSUAL CASES

The publication of the following records is warranted by the uncommon nature of the injury in each case.

CASE I

A married woman, 34 years old, three months pregnant, while going downstairs two hours previous to admission, tripped on one end of a loose stair-rod, which was sharp-pointed. She fell, and the rod, coming up like a tip-cat, entered her perineum. On admission to hospital three inches of the stair-rod were seen to be protruding from the left side of the perineum. The patient complained of great pain in the back, especially on attempting to move; there was some pain in the abdomen and the chest. There had been no vomiting, cough, or haemoptysis. The pulse was 86, the temperature and respirations were normal, and there was no evidence of shock. No abnormal physical signs were found in the chest or the abdomen.

Under ether anaesthesia the abdomen was explored through a right paramedian incision. It was found that the rod had traversed the vagina and transfixated the right broad ligament, passing beside the pregnant uterus. It had then crossed the pelvis without injuring any coils of gut, had pierced the external iliac vein as it lay in the angle between the internal and external iliac arteries, and had entered the substance of the psoas muscle. Running upwards in the substance of this muscle, it had missed the renal vessels and the duodenum by a very narrow margin, and was next seen crossing the interval between the duodenum and the liver, disappearing into this latter organ.

The rod was removed gradually by traction on its lower end, and the point followed in its course. There was little bleeding from the liver, but when the rod was removed from the hole in the external iliac vein, which it had been plugging, the vein bled freely and had to be ligatured. The rent in the broad ligament was repaired and the abdomen closed, drains being left in the subhepatic and pelvic regions for twenty-four hours. On comparing the rod, which was 2 ft. 6 in. long, with the patient's body, it was evident that