one hundred, is often necessary. This is specially the case in asthma, emphysema, anæmia, and phthisis. It may be asked, Are the effect ever permanent, or are they only temporary? The short time the Brompton Hospital bath has been opened precludes my speaking with certainty; but the medical men at the large establishments of Stockholm, Reichenhalla, and Paris offer strong testimony to the beneficial influence lasting for years.

PERIOSTITIS FOLLOWING TYPHOID FEVER.

By HENRY W. KING, M.D. Edin., M.R.C.S. Eng., Chester.

IN the JOURNAL of February 28th, Mr. Jackson mentions a case under the above heading; I have recently treated a similar case.

On November 29th, 1884, I was called to see W. M., aged 29, an artisan living in Chester. He stated that he had only a few days before left the fever hospital, where he had been for eight weeks, suffering from typhoid fever. The patient looked pale, and stated that about a week ago he began to feel his right leg heavy, stiff, and painful. He had not hurt it in any way. The whole of the right leg was oedematous from the knee to the ankle; there was a red inflamed patch over the inner surface of the tibia, at the junction of the middle and lower thirds. Much pain was felt at times, of a throbbing nature; there had been some involuntary starting. No fluctuation could be detected. The nature of the case was explained to the patient, who rather reluctantly allowed me to make the necessary incision. I made a straight incision over the painful spot about an inch and a half long, and nearly as deep, along the anterior border of the tibia. A little bleeding occurred, but no pus was seen; hot fomentations were at once used to allay the pain. The leg was then placed on a couple of pillows on the bed, and hot poultices applied, to be changed frequently. A mixture of acetate of iron and chlorate of potash was ordered every four hours. On November 30th, the patient had slept fairly well; the leg was much easier, and did not throb, the red blush around the wound was less, but considerable oedema was still present. I inserted a small drainage-tube, but it was removed with the first poultice, as the wound was small. A few days later, as there was still some uneasiness felt in the leg, and the red blush did not disappear, I enlarged the deeper part of the wound with a probe, and inserted a drainage-tube, which was left in the wound two days. This acted favourably; the pink oedema around the wound gradually subsided, and subsequent progress was quite satisfactory. On December 18th, the wound was reported by the patient to have nearly skinned over. He was then using iodoform-ointment, and was able to get out a little.

In the *Medical Digest*, reference is made to the *London Medical Record* for 1877. It contains an article extracted from the *Revue Mensuelle*, in which M. Mercier treats of the subject. He had only met with seven cases in which periostitis had occurred as a complication of typhoid fever. It comes on, he says, after about five or six weeks of illness; that is, during convalescence, when there is no fever, and the patient begins to get up. The most marked symptom of this periostitis is weakness, which increases, in spite of food, tonics, etc. The usual symptoms of periostitis are present, but with an excess of oedema, both of the cellular tissues and of the periosteum. After four to eight days, the pus is either reabsorbed or is evacuated. The pain then becomes less, and the patient recovers his strength; sometimes the periostitis ends in necrosis. He adds, the etiology of this complaint is as yet very obscure, as it appears to come on suddenly, unless some traumatic affection seems to determine the spot. So far as treatment is concerned, the author has found that a blister applied to the tumefied point from the very beginning has proved useful. When the pus has formed, no artificial opening must be made to evacuate it, as this might give rise to septicæmia; therefore, it is better to let the pus either be reabsorbed or spontaneously evacuated. Reference has already been made to Sir James Paget's views; as will be seen, he still considers the etiology an interesting question. Simple oedema, with or without phlebitis, is not uncommon after any exhausting affection. I had under my care, two years ago, a severe case of typhus fever. During convalescence, in the third month, the patient, a young man, aged 20, suffered from obstinate oedema of the whole of the right leg and thigh; it yielded, after much trouble, to iron and digitalis. With regard to treatment; why should we not treat such cases of periostitis on the usual lines? All the symptoms of inflammation are localised, the pain is especially prominent, thus assisting diagnosis, and calling aloud for treatment. The tension must be relieved. M. Mercier prefers a blister, the counterirritant lessening deep congestion, and therefore also the tension over the bone. It hence relieves the throbbing pain. I venture to think, however, that a free incision will act more certainly in most cases. The temporary pain, no

doubt, is great; but relief is soon experienced, sleep obtained, and with it a return of appetite; and the after-consequences of delay in a tissue so easily devitalised as bone are prevented.

PERIOSTITIS IN TYPHOID FEVER.

By J. O. AFFLECK, M.D.,

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THE communication of Dr. Hayward, of Liverpool, in the JOURNAL of January 3rd, and that of Mr. E. Jackson, of Manchester, in the JOURNAL of February 28th, have directed attention to the occasional occurrence of periostitis as a sequela of typhoid fever. As this morbid condition has not hitherto received much notice by writers on fever, it is desirable that cases of the kind which may have been observed should be put upon record, with the view of aiding in determining the place as regards frequency and importance of this lesion among the complications or results of typhoid. It is with this object that I venture to cite three instances of this affection which came under my observation during the past year in the typhoid wards of the Fever Hospital of the Edinburgh Royal Infirmary. These three cases of periostitis occurred in a total of 117 cases of typhoid fever which were under treatment in 1884. Two of them occurred in young men, aged 21, one of whom was admitted—in the third week of the fever—with periostitis commencing in the right tibia. This produced a recrudescence of the fever, and prolonged the case for about four weeks after his admission, but he made a good recovery. The other, who was admitted at the commencement of the fever, showed symptoms of marked periostitis in the right humerus in the third week, and this was followed by a similar condition of the right tibia. Convalescence in this patient was slow, and after the periostitis had apparently departed, it reappeared in the right humerus, and an abscess formed, which was subsequently opened in the surgical wards by Mr. Joseph Bell. The patient ultimately completely recovered.

The third case was that of a girl, aged 9, who was admitted with a very severe attack of typhoid fever, which reduced her to such a degree of exhaustion, that for a time it seemed scarcely possible she could survive. In the fifth week, and just as the temperature had begun to subside, she was attacked with periostitis of the right humerus, which set up fever again, and caused her intense suffering. Contrary to the expectation of everyone about her, she rallied and recovered. No abscess formed, but the painful swelling of the shaft of the humerus continued for full six weeks from its first appearance.

The local treatment in these cases consisted in hot opium-fomentations during the continuance of the acute pain, and subsequently the application of iodine.

Sir James Paget, in his interesting notice of "Some of the Sequels of Typhoid Fever" (*St. Bartholomew's Hospital Reports*, vol. xii, 1876), enumerates periostitis, with or without necrosis, among them, and appears to regard this condition as probably a sequela proper of the fever. He states that it occurs at an advanced stage of the convalescence, when the temperature has become normal, and the patient is regarded as free from his fever, is moving about, and becoming stouter and stronger. This is doubtless the case in the majority of instances (I have myself seen several); and the surgeon is better able, at least as regards hospital-patients, to furnish accurate information upon this point, seeing that the cases will naturally fall to him rather than to the physician who previously had them under his care. Sir James Paget further says: "I do not remember to have seen or heard of a case in which it has occurred during the continuity of the fever." Nevertheless, that periostitis may occur at the height of the fever, or at least when convalescence has no more than begun, is evident from such instances as those three above narrated; and in this view, it may be regarded as a complication, no less than a sequel, of typhoid fever.

As to causation, it is probable that this affection depends upon the lowered nutrition of the osseous tissues, as the result of a severe or prolonged attack of enteric fever, most of the cases in which it has been noticed appearing to have been of this character. In this fever pre-eminently, the nutritive changes are manifold and profound, and depend partly upon the pyrexia, but especially upon the great weakening of the assimilative function connected with the morbid alterations in the mucous membrane of the intestines, which may make itself felt, even after all febrile action has passed away.

It is not, however, to discuss the pathology of periostitis in typhoid fever, but simply to record the facts of its occurrence under the conditions now stated, that this brief notice is written. This lesion undoubtedly deserves a more prominent position among the results of typhoid fever than it has yet been accorded. In a not inconsiderable