printed calico has passed through the drying machines and is being folded, but though this folding is done by boys who might be considered more likely to be susceptible than adults, there nevertheless appears to be complete immunity.

The cloth is of course more quietly folded; it is not pulled about and shaken as yarn is, and moreover the dye is more closely incorporated with the fibre of the cloth by the heavy printing-machine rollers, and perhaps never more than one-eighth of the cloth is dyed with lead salts. It is not, therefore, easy to see why the Committee on Dangerous Trades should have placed print works under the same category as dye works in their recommendations.

It is quite clear that dyers of chrome yarn should be placed under special rules, especially those who dye for foreign markets, but the absence of the same elements of danger in calico printing would scarcely seem to warrant its inclusion under the same head.

HEREDITARY SYPHILIS AND ENTERIC FEVER.

A CASE WITH COMMENTARY.

By J. D. ROLLESTON, M.A., M.D. OXON.,

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A GIRL, aged 19, was admitted to hospital on September 14th, 1905, in the second week of enteric fever. Numerous rose spots were present on the trunk, the spleen was enlarged, and the stools were "pea-soupy." The blood furnished a positive Widal's reaction. The diazo and methylene-blue tests were also positive. The fever took an uneventful course, the evening temperature reaching normal on the forty-first day.

On the forty-eighth day, when convalescence appeared to be firmly established, the patient complained of pain in the lower jaw. A small spontaneously painful and tender swelling was found attached to the left inferior maxilla just in front of the angle. The skin over the swelling was red and marked by a small cicatrix, the result of a fall many years before. The temperature that evening and the next few nights was 99°, and did not rise any higher. Apart from the local discomfort, the patient felt quite well. A mixture, containing 10 gr. of potassium iodide, was administered every four hours. No local application was used. The following day the swelling was no longer spontaneously painful, and was less tender, and in the course of the next few days gradually subsided, so that by the end of the week nothing could be felt beyond a slight thickening of the bone. The iodide was therefore reduced to 10 gr. three times daily, and, when the thickening of the bone was no longer palpable, omitted altogether. Almost simultaneously with its omission the patient began to complain of "rheumatic" pain in the right arm, which came on soon after she got into bed. The pain did not, however, at first keep her awake long, and when she awoke the next morning the pain had entirely gone, and did not recur till the following evening. Examination of the arm during the daytime revealed nothing abnormal, while at night no local enlargement nor tenderness could be discovered. The general health was in no way affected, nor was the temperature at all raised. As, however, the pain became worse on subsequent nights, the iodide was resumed, this time in 15-gr. doses thrice daily, and the nocturnal pains were considerably relieved. The patient was discharged from hospital on November 7th after a stay of fifty-five days.

On admission she stated that she had suffered from severe rickets, but the tibiae revealed the characteristic deformity due to hereditary syphilis, the bones presenting a symmetrical hyperostosis of the anterior portion of the shafts, which has been likened by French writers to the blade of a sabre. There were no Hutchinson's teeth, but the dentition showed the following lesions of nutrition, which, as Fournier* has shown, though not peculiar to hereditary syphilis, are more frequently found in that condition than in any other:

1. Minute dark erosions and white transverse grooves on

the crowns of the upper central and lateral incisors and the right lower first bicuspid.

2. A symmetrically oblique implantation in the jaw of the lower lateral incisors and lower first bicuspid.

3. Microdontism of the left upper first bicuspid.

4. Numerous extensively carious teeth.

Further evidence of hereditary syphilis was present in a high arched palate—the *palais ogival* of French writers. Otherwise the skull showed no stigmata of hereditary syphilis. The nose was well shaped. The complexion, though not florid, could not be considered pale. There was, in short, nothing in the physiognomy to suggest a syphilitic taint. Such cases, as Mr. Hutchinson has shown, do occur every now and then. In this connexion it is well to bear in mind the words of Parrot, who, after cautioning his readers against the exaggeration of Trousseau's classical description, states that in the immense majority of cases subjects of hereditary syphilis have nothing peculiar in their facies, and after the first few months of life often exhibit the signs of the most perfect health. Examination of the liver and spleen, as soon as the typhoidal enlargement of the latter had subsided, was negative. There were no active skin lesions nor any suggestive cicatrices. No interstitial keratitis nor deafness existed. There was no mental impairment nor any other sign of backward development. The patient was an only child, and the parents, of whom she knew nothing, were both dead, so that confirmation of the diagnosis by examination of the rest of the family was impossible.

The most interesting feature of the case is the exact nature of the periosteal swelling. How far was enteric fever responsible for it? Periostitis, since it was first described by Sir J. Paget in 1876, has become a well-recognized sequela of enteric fever. It is, however, by no means common. Keen, in 1896, had collected only 110 cases. The statistics of the Metropolitan Asylums Board hospitals, in which over 1,000 enteric cases are treated annually, furnish a percentage varying between 0.96 and 1.9 for the past six years, or a total of 99 cases. Without a bacteriological examination, which in the absence of suppuration the interest of the patient did not justify, a definite answer to the above question cannot be given. The onset of periostitis in convalescence from enteric fever without disturbance of the general health was noted by Paget, and subsequently by later observers, as characteristic, and is well exemplified in the present case. Specially remarkable is the unusual localization of the periostitis. In 216 cases of bone disease following typhoid collected by Keen, only 2 occurred in the lower jaw.

Determination of the periostitis to this point may have been produced partly by the scar, partly by the presence of a molar which showed commencing caries, these two circumstances constituting a *locus minoris resistentiae*. Thus Keen quotes a case of post-typhoid necrosis of both tibiae at the site of old lesions marked by a strumous scar. No recent external injury, as in some of the cases of typhoid periostitis, had occurred to my patient.

That syphilis was concerned in the production of the periostitis was shown by the remarkable readiness with which the inflammation yielded to specific treatment. The inefficacy of potassium iodide in the ordinary periostitis following uncomplicated typhoid was strikingly exemplified by a patient who was under treatment for enteric fever at the same time. No history or evidence of syphilis was obtained. Periostitis of the right tibia developed on the fifty-fifth day. Iodide was administered from the first, but in spite of a temporary improvement, suppuration occurred, requiring surgical treatment. The osteocopic pains from which the patient under discussion suffered, though not uncommon in acquired syphilis in the secondary stage, especially in the female sex, have received but little attention in descriptions of the hereditary disease. The nocturnal restlessness of children suffering from congenital syphilis has, it is true, been attributed by Dr. E. Smith to periosteal pains, but in the absence of appreciable lesions of the bones, and in view of the inability of the patients to express what they feel this can only be conjecture.

As in acquired syphilis, the pains in the bones may be associated with an appreciable lesion, or, as in the present case, pain may be the only symptom without any obvious signs of local inflammation. Writers on syphilis from

* Recently C. F. Marshall has insisted more strongly than Fournier on the heredo-syphilitic origin of these dental malformations.

the earliest times* have dwelt on the existence of such pains. Ricord attributed them to the difficulty with which the periosteum and medulla were distended by the inflammatory process. Fournier proposed the term *ostealgia* as a vague provisional denomination for those cases where no local lesion could be discovered in contradistinction to the other two forms of pains in the bones, namely, periostitis and periostosis, which presented palpable lesions. Lancereaux has shown that while pain is sometimes observed apart from any appreciable lesion, it is more frequently connected with a material lesion of the bones and fibrous tissues, and adduced as testimony the fact that many autopsies had revealed changes in the dura mater or an exostosis on the internal table of the bones of the skull in cases in which during life the only symptom observed had been osteocopic pains. Aching pains in the bones, most marked at night, occasionally occur after enteric fever (Cayley), but a previous history of similar pains and the fact of their yielding so readily to iodide of potassium indicated a syphilitic origin, while the absence of sweating, pyrexia, and disturbance of the general health excluded rheumatism, for which the patient herself had mistaken them.

This case further illustrates how a disease hitherto latent may be roused into fresh activity by an acute illness, though the latter is not etiologically connected with it. This fact is well known in the case of vaccination, which on several occasions has been unjustly held responsible for the phenomena of hitherto latent congenital syphilis.

In conclusion it may be said that the case is of interest as being a form of relatively benign hereditary syphilis. The osseous system alone had been affected, the brain, special senses, skin, and viscera were intact, nor was there any history or past evidence to show that they had been affected. The case thus affords a good instance of those incomplete types of disease which Trousseau denominated *formes frustes*, and so happily compared to the defaced inscriptions which from a few remaining words or letters the skilful archaeologist could completely reconstruct.

I am indebted to Dr. J. E. Beggs, Medical Superintendent at the Grove Fever Hospital, for permission to publish this case.

BIBLIOGRAPHY.

- Acland, Allbutt's *System of Medicine*, vol. ii, 1897, art. Vaccinia. Cayley, Allchin's *Manual of Medicine*, vol. i, 1900, art. Typhoid Fever. Fournier, A., *Leçons sur la syphilis*, 1873; *Traité de la syphilis*, 1893, *Syphilis héréditaire tardive*, 1886. Fournier, E., *Stigmata dystrophiques de l'hérédosyphilis*, 1898. Hutchinson, Reynolds's *System of Medicine*, vol. i, 1866; *Syphilis*, 1887; Allbutt's *System of Medicine*, vol. i, 1897, art. Syphilis. Keen, *Surgical Complications and Sequels of Typhoid Fever*, 1898. Lancereaux, *Treatise on Syphilis*. New Sydenham Society, 1868. Marshall, *Treatment*, August, 1905. Metropolitan Asylums Board's Annual Reports, 1899-1904. Paget, St. Bartholomew's Hospital Reports, 1876. Parrot, *La syphilis héréditaire*, 1886. Ricord, *Traité pratique des maladies vénériennes*, 1838. Smith, E., *Diseases in Children*, 1889. Trousseau, *Clinique médicale, Leçons sur la syphilis des enfants nouveaux-nés et la scarlatine*, 7^e ed., 1885.

SOME CLINICAL FEATURES OF MEDITERRANEAN FEVER.

WITH PARTICULAR REFERENCE TO CARDIAC COMPLICATIONS.

BY FLEET SURGEON P. W. BASSETT-SMITH, R.N.,
HASLAR.

FROM a considerable experience of this disease I have been forced to recognize that at the present time hardly enough value has been given, for diagnosis, prognosis, or treatment, to the important effects produced by the specific organism of Mediterranean fever on the heart.

I think these may be divided into two kinds: (1) Toxic; (2) microbic.

It has, of course, for many years been recognized that in all its stages the heart is much influenced by the disease. In the early periods, with high fever (or in any acute pyrexial relapse), the most likely cause to bring about a fatal result is heart failure, from which the patient quietly dies without warning symptoms.

* Peculiare et maximum est symptoma in morbo Gallico dolor articulum primum capitis universi, vel dimidii, deinde articulum superiorum et inferiorum, et praecipue internodiorum. Hic dolor die quiescit, noctu vel ante caenam, vel post caenam solet excrutiare et insomnes reddere homines. Dolor est pungens, quasi distendens et lacerans. . . Pungunt isti dolores, quia sunt circa perihostia. Solent esse cum tumore, et sine tumore.—G. Fallopius, *De Morbo Gallico*, c. 94, Patavii, 1583.

In the later stages of the disease it is usual to find a fast pulse, irregular palpitations, excitable action of the heart on slight exertion or mental perturbation; therefore, as a routine, the character of the heart's action in a chronic Mediterranean fever case is one of the first points that I investigate.

We should bear in mind the frequency with which these symptoms are associated with general and localized attacks of neuritis, neuralgia, hyperaesthesia (so painful and distressing), or with paresis or partial paralysis of certain groups of muscles, all of which pass away after variable periods, but always tending in chronic cases to prolong the suffering, prevent sleep, and render the patient miserably depressed. Seeing these cases day by day one cannot doubt the presence of a powerful toxin in the blood acting markedly on the heart, a poison analogous in many ways to that found in diphtheria.

The point which is, however, less recognized, and to which I particularly wish to draw attention, is that not only is the heart subject to be influenced most detrimentally by the toxic product of the *Micrococcus melitensis*, but that the organism itself is able to set up endocardial changes which are most dangerous. This point seems to me to be clearly established from cases of my own, and from one occurring at the Seamen's Hospital, Albert Docks, which, through the kindness of Sir Patrick Manson, I am able to quote.

It must be remembered when treating Mediterranean fever cases that the *Micrococcus melitensis* is constantly present in the blood during the course of the illness, that it is very virulent, and that the protective leucocytes in the blood are greatly diminished both in number and in phagocytic power.

It does not seem unlikely, then, as with the streptococcus, pneumococcus, and gonococcus, that with some change in the cellular elements of the cardiac endothelium, ulcerative changes may take place and symptoms of acute or malignant endocarditis at times occur.

In looking over the notes of cases treated by me at Haslar during the last five years, I find that out of 596 there was 1 death due to cardiac failure, and out of 42 cases invalided out of the service, 11 were for organic heart disease, due to, or occurring with, the fever, besides a number who developed cardiac murmurs but were not invalided.

Of these cases, I would especially draw attention to two reported below. The second, during a typically prolonged type of the fever, suddenly developed such severe symptoms of endocarditis, that for a time the prognosis was most doubtful. In his case the diagnosis was not only proved by the clinical symptoms and agglutination reaction, but also by the isolation of the *Micrococcus melitensis* from the blood.

CASE I.—F. L., gunner, R.M.A.

History.—Gradual onset of fever and debility associated with cough and pain in the chest, thought to be bronchopneumonia. Sent to Malta Hospital, where he developed typical signs of Mediterranean fever. The blood agglutinated with a dilution of 1 in 150. The spleen was large. The fever ran high, and he was invalided home. On admission to Haslar Hospital the cardiac impulse was diffused and action excitable. He had a slight rise of temperature every evening; after a week a soft systolic mitral murmur was made out; the pulse was fast, and he had pain in the chest. The following week the bruit was noted as being long and blowing; the temperature was still of a hectic type. Four days later a presystolic as well as a systolic bruit was found. The fever slowly abated, and he regained strength, being finally invalided out of the service after two months' treatment in Haslar.

Here organic heart disease set in during the course of the disease, and by the changing character of the murmurs led one to believe that they were due to freshly-formed vegetations.

CASE II.—C. N., aged 32. Petty Officer.

History.—This man had a gradual onset of fever at Salonica which was thought to be enteric, as diarrhoea was a prominent symptom; the temperature chart and course of the disease at Malta Hospital, however, were typical of Mediterranean fever, and while there a mitral bruit developed, but was said to be very variable in character; the fever ran high and was distinctly undulant in character, there having been five waves before admission to Haslar. On admission—temperature normal, pulse 112, no pains, heart's impulse diffused, a soft mitral systolic murmur present. On December 30th, one week after, he had a rigor, his temperature rapidly shot up to 104°, pulse 130, with headache and slight cardiac distress; the next morning a loud bruit was heard, but the action was regular; the