

made to the possibility of this accident from 18 to 25 : it is only mentioned in a very casual manner that this does not take place after 14 or 16. However, I have had several cases at a later age than that. (Here Mr. Hewett showed a specimen in which there was a separation of the epiphysis at the age of 18.) You see the condyle completely torn off : it happened when I was assistant-surgeon. You will find a very accurate history of this case in the Catalogue of our Museum, vol. i, p. 137. There was also in this case a separation of the epiphysis of the tibia and lower end of the fibula. The limb, from the knee downwards, was icy cold, and there was great swelling about the ankle. Mr. Cæsar Hawkins, under whose care the patient was, amputated the thigh. On dissecting the knee-joint, all the deformity was found to depend upon a separation of the epiphysis, and the coldness of the joint upon an injury to the popliteal artery. The case in the hospital now reminds me very strongly of Mr. Hawkins's case. Now this case is one which might in a country village lead you into great trouble. You may depend upon it that, if such a case as this unluckily fell into your hands when you were beginning practice, it would be said that you did not know your business or you could make it all right. In a separation of the epiphysis what happens is this : the cartilage is torn from the bone in some parts, and in others the bone itself gives way, so that there is a very irregular jagged surface. To readapt such surface is a very difficult matter. You may bring one part into the proper place but not another, and such is the case with this girl. If a dissection were made, you would probably find such to be the condition of the parts.

I have shown you a specimen of separation of the epiphysis from our museum at 18 years of age. There is another such at 17, and two at 16, and all these histories are fully detailed in the Catalogue ; and there might be separation of the epiphysis at a later age even than 18. Always bear in mind that such may possibly happen, but very rarely, it is true, till the age of 25.

[Mr. Hewett then dwelt on fracture properly so called of the lower end of the femur, narrating some interesting cases, and exhibiting a number of specimens involving the condyles from the museum. He then proceeded.]

Having made out what is the nature of the accident in this girl, I must make some mention of the plan of treatment. In the present day, we for the most part use the long splint in cases of fracture about the lower end of the femur. When this girl came in, the long splint was applied ; but Mr. Rouse, after two or three days' trial with this splint, resorted to the inclined plane. The first was Earle's bedstead ; and then, finding that this did not answer, I ordered a common inclined plane, since which the parts have been kept in much better apposition, and she now finds herself much more comfortable. In addition to the inclined plane on which the limb rests, we have short splints on the outer, inner, and upper parts. I have been very careful to tell the girl that she will have some deformity about the thigh, although it will not interfere with her walking. And when you have a case of this kind to deal with, gentlemen, and you see that there must be some deformity, you will find it wisest to tell your patient and friends that such must be the case.

SMALL-POX IMPORTED INTO ICELAND BY FRENCH FISHING VESSELS, STAMPED OUT BY QUARANTINE AND SULPHUROUS FUMIGATIONS.

By J. HJALTELIN, M.D.,

Chevalier of the Legion of Honour ; Knight of the Order Dannebrog, etc. ;
Chief Physician in Iceland.

In the middle of April last, four French fishing vessels came into the harbour of Reykjavik, in order to ask for medical aid against small-pox, which was then believed to be very common in the French fishing fleet all round the southern shores of our island. The first vessels that came into our harbour were from St. Valéry-en-Coute, where a small-pox epidemic was said to be extremely malignant at that time. One of these vessels had five sick men on board, three of whom had confluent variola ; and one sailor had died of the same disease before they arrived here, but had of course been buried in the ocean.

The sudden appearance of a malignant and highly contagious epidemic on our coast, and the news from abroad of the ravages of small-pox both in France and in England and Germany, excited great fear amongst the inhabitants, and that fear was fostered by the arrival of more vessels with new cases.*

Vaccination and revaccination were immediately instituted, with as much speed as was possible, throughout the whole country ; and I gave orders to all our medical men and the ordinary vaccinators to set to work without delay, and they were to that end provided with fresh vaccine-lymph and vaccine-crusts.

In order to try to prevent this dangerous disease from spreading, I advised our government to have at once a quarantine-hospital erected—of course not in our small town itself, but in its neighbourhood. An old large house, situated about half an English mile from the town, and which some years since had been the seat of our bishop, was as soon as possible fitted out for this purpose, and the vessels were ordered to bring their patients to this place, in their own boats, under the control of our policemen. The hospital was fitted with beds and some necessary furniture ; a medical student with some servants were lodged in it, and they were strictly prohibited from having any intercourse or communication with people outside.

I myself was obliged to visit this hospital daily, in order to look at the patients, prescribe the necessary medicines, and direct what else might be needful. I found most of the sailors very seriously ill, and no fewer than seven of them had the confluent small-pox ; they were evidently in great danger. Some sailors who were on board one vessel would not be carried into the hospital, but preferred to remain on board their own boat, prepared to live or die, as the chance might happen. I treated them on board the vessel itself, and when they seemed a little better they went home to their native country. These patients were treated in the same manner as those in the hospital. Most of the crew on board this vessel had evident marks of having, lately or before they sailed for Iceland, been affected with small-pox.

As this serious epidemic showed a high degree of malignity, and it could scarcely be hoped that the quarantine regulations would be sufficient to save the inhabitants from the disease, I considered what would be the best means to prevent it and to treat it. As I am a firm believer in the power of disinfectant and antiseptic remedies, I could not long hesitate in my plan, but was resolved to try these remedies one after another. The chief question appeared to be, whether I should use the oxygenating or the disoxygenating compounds of this class ; but for some reasons I thought that the disoxygenating antiseptics would be the most safe. I knew very well that some German physicians had in former days tried chlorine water with considerable success against malignant small-pox ; but, as I thought that remedy rather too irritant for the respiratory organs, I determined to try sulphurous acid, both externally and internally—externally in the form of fumigation, by burning refined sulphur in the sick rooms ; and internally by giving sulphurous acid mixed with pure water. The effect was very highly encouraging ; and it soon became evident that, although the patients at first had a great aversion to the fumigation, and complained of the strong and pungent sulphurous odour, they soon felt the good effects of it ; and they became so eager for it that I was obliged to restrain their eagerness a little, being afraid that their lungs might suffer. At the same time they got ordinary sulphurous acid internally, mixed only with pure water—the usual dose being about a drachm, mixed with an ounce of water, and this being taken every third hour. The result of this treatment was very satisfactory, for not only did the eruptive fever and the heat diminish, but in the milder form of the disease the vesicles dried very quickly, leaving the skin covered with thin brown scales, which soon fell off. Out of twenty-two patients treated in this way, I only lost one : he was brought to the hospital in a moribund state, and expired about thirty-nine hours after his arrival. Amongst the patients thus treated, seven had confluent small-pox ; and of these, three were in the fourth or suppurative stage when they came into the hospital, and four were in the third stage. The others had the variola discreta in a high degree, with all the common symptoms of small-pox ; namely, high fever, with distinct minute papulæ, elevated above the surface, always beginning in the face at the side of the nose, and thence extending over the whole face, and lastly over the trunk and the extremities. In such cases the vesicles were very numerous, although not confluent ; and there were more or less severe headache, hoarseness, difficulty of swallowing, and some ptialism. These were generally quickly cured, and many of the patients could leave their beds after a few days ; they were then allowed to walk about, and some of them were even desirous after twelve days to go on board their fishing vessels.

Those with the confluent small-pox had of course more severe symptoms, and their cure required, therefore, a longer time. Some of them became blind in the suppurative stage, and the swelling of their faces was enormous : the secondary fever was, nevertheless, not so serious as

* Captain Timbre, the Commander of the French Squadron stationed here, thought that the matter looked rather serious ; for, on account of his report, a large ambulance steamer was fitted out by the French Government. This steamer, however, arrived here in June, when all was over. It had on board four physicians and

two apothecaries ; and was intended equally for the benefit of the Icelanders and of the French fishing fleet, in case of need. This is one of the many instances of the noble feelings of the high-minded French nation ; for sure it is, that assistance would have been necessary, if the epidemic had not been stamped out in time.

might have been expected, and all, except one who died, were quite cured in the course of five weeks, without any other bad consequences than that most of them were deeply pitted in their faces. Nearly all of them had secondary abscesses both on the trunk and the extremities; but these, after having been opened, healed in a short time without any ill results. In order to protect the sight, I used nitrate of silver, which I thought more sure than collodion.

The tension of the skin was very much relieved by the external use of linseed-oil, mixed with one-fifth part of carbolic acid, rubbed into the surface with a soft brush. Bed-sores and secondary abscesses were treated in the same manner.

Besides the generally favourable results of this treatment, there were also some remarkable circumstances which convinced me of the good effect produced by the sulphurous acid. These may be thus summed up in a few words.

1. The use of the sulphurous acid fumigation and the sulphurous acid internally evidently mitigated the primary and secondary fevers; the heat of the body was remarkably lowered, and the thirst was quenched even when the primary and secondary fevers ran very high.

2. The symptoms generally following the primary and secondary fevers of small-pox—as the pains in the back and the articulations, severe headache, vomiting, pyalism, etc.—were evidently mitigated by the internal use of the sulphurous acid; and I feel, moreover, inclined to believe that the sulphurous fumigations, which, to tell the truth, were used in an uncommon strength in all the rooms, probably assisted the internal use of the sulphurous acid in no slight degree.

3. There were, moreover, some facts which at least seemed to make it highly probable that the sulphurous acid and the sulphurous fumigations have a really destructive power on the small-pox virus. Of instances pointing in that direction I will cite a few.

When the quarantine hospital was being fitted out, the house-surgeon and the servants were all immediately revaccinated; and this revaccination had, at least in two of them, already produced true vaccine vesicles when they were shut up in the quarantine hospital. No sooner, however, had they been exposed to the sulphurous fumigations than the vesicles dried away without any following suppuration, just as the small-pox vesicles were afterwards seen to do on other patients who, before the beginning of the suppurative stage, arrived at the hospital. One other fact is perhaps more striking than all: a carpenter had been taken into the quarantine in order to make some new beds for the patients, and remained there among the sick for some time. When he had done his work he was let out, after having been exposed to strong sulphurous fumigations. He was then outside under strict observation during fourteen days; and when no precursory symptoms could be observed in him he was revaccinated with complete success, and had true vaccine pits a second time, for he had been vaccinated twenty years before.

But be all this as it may—and every one may explain these facts as he likes—at all events so much is certain, that a malignant small-pox has been successfully treated and stamped out of this island in the aforesaid manner, without having infected a single person of its inhabitants. This is a fact which cannot be denied, and facts are, as we all know, “stubborn things”. There was certainly an extensive focus for contagion; and it is seldom the case that quarantine regulations are sufficient to destroy a disease of such tenacity and frightful virus as that of malignant small-pox. Experience has, on the other hand, shown that the Icelanders are, no less than other people of the globe, extremely liable to the small-pox contagion. In the past century the small-pox was very often imported into this island, and every Icelander is still shocked when he reads of the frightful epidemic of that kind which, in 1707, killed one-fourth part, or 18,000, of the inhabitants. Even in this century—viz., in 1840, small-pox was imported here; and in one parish where vaccination had been neglected it destroyed no less than one-eighth of the people, leaving others blind and lame, or very much disfigured. These instances are, amongst many others, a great warning against the erroneous and dangerous doctrines of the “antivaccine” apostles, who even in this *ultima Thule* are preaching their baneful and stupid dogmas.

The neglect of vaccination was clear enough in all the French sailors who came into our quarantine. Among the seven affected with confluent variola, I could not detect any true vaccine marks on their arms, although they told me that they had been vaccinated in their younger days.

As to the action of the sulphurous fumigation and the sulphurous acid, I must still make the following remarks. As generally known, it is commonly believed that the fumes of sulphurous acid are poisonous, and we therefore still find them in Dr. Alfred Taylor's *Medical Jurisprudence* characterised in this way: “The sulphurous acid gas, when existing in a very small proportion in air, has the power of irritating the glottis so violently that, if accidentally respired, it would commonly compel

the individual to leave the spot before the vapours were sufficiently concentrated to destroy life.” But sure it is that, although this gas is very irritant to all those who are not accustomed to it, I feel from experience convinced that it may be respired to a far higher degree than has hitherto been commonly believed; and I therefore fully agree with Naquet, who (in his *Modern Chemistry*, translated by Wm. Cortis, p. 114) says: “Sulphurous anhydride has a pungent odour; it excites coughing, but is not dangerous, unless it form a large proportion of the atmosphere.” I feel convinced that patients may be accustomed to it to a high degree, without any bad effect, and I therefore regard it as far less dangerous or inconvenient than chlorine gas. I have, moreover, remarked that sulphurous acid gas may even be inhaled with benefit in bronchial affections, and it has often been remarked here, during severe influenza or epidemic catarrh, that the sulphur diggers at the sulphur mines at Krisuvik have been quite free from that epidemic. At the quarantine I remarked the same fact; and while an epidemic catarrh was very common, both in Reykjavik and all round in its neighbourhood, all the people in the quarantine were exempt from it. The great disoxydising effects of sulphurous acid cannot be denied, and its cooling effect upon the system may easily be demonstrated; its destructive effects upon parasitic life are likewise undeniable; and why should it not also be capable of destroying “microzymes”? I have fully tried its beneficial effect in typhus and enteric fever, and I have no doubt of its usefulness in many other zymotic diseases. But, alas! our modern medical science seems still to have a very small and limited faith in real chemical physics; most is left to the so-called “healing act” of nature; it is trusted to flesh and blood to destroy zymotic poisons, as though the inventions of the human mind would never be able to master them, and therefore we still read in some journals, and indeed in some medical works of standing, that even such dangerous poisons as the variola virus should be left to the curative effect of the system itself.

One very eminent and highly esteemed medical author, Dr. W. Aitken, speaking of the treatment of confluent small-pox, says in his *Science and Practice of Medicine* (London, 1866, vol. i, page 260): “Small-pox must run its course, for it is not under the influence of any specific;” and another, Dr. Hermann Lebert of Berlin, in his *Handbuch der Practischen Medizin* (Tubingen, 1863, vol. i, page 71), writes to the effect that he has found it sufficient, even in confluent small-pox, to keep the patient in a moderate temperature, and give cooling medicines. But it must be remarked that both those authorities reckon the mortality from confluent small-pox at from 35 to 50 per cent.

Nearly ten years since I wrote in the *Edinburgh Medical Journal* my humble opinions about the disinfectant treatment of typhus, which I then thought might be extended to some, or perhaps most, other zymotic diseases. Time has confirmed in me the opinions which I then expressed, and has, moreover, convinced me of the worthlessness and danger of the so-called “expectant treatment” in all cases of malignant epidemics.

Reykjavik, October 10th, 1871.

EXFOLIATION OF THE BLADDER.

By GEORGE BUCHANAN, A.M., M.D.,

Surgeon and Lecturer on Clinical Surgery, Royal Infirmary, Glasgow, etc.

My attention having been directed to this subject by reading a paper in the *BRITISH MEDICAL JOURNAL* for October 14th, I think the record of the following case occurring in the male, may prove interesting, as an addition to the important series of cases recently recorded in the *JOURNAL*.

Mr. C., aged about 60, a tall gentleman, of spare habit and sallow complexion, was placed under my surgical treatment by Dr. J. G. Wilson, his family medical attendant.

Dr. Wilson informed me that for several years Mr. C. had been in the habit of consulting him for dyspepsia, accompanied by rather vague urinary symptoms, the passing of urine being sometimes attended with pain. Both ailments were from time to time mitigated by the use of the water of some of the German spas, to which he was annually in the habit of resorting. Last year the continental war prevented his annual visit, and to that, along with anxiety as to some of his relatives who were engaged with the armies in the field, he attributed his being worse than usual last winter.

When I saw him, on December 20th, I found him suffering from cystorrhœa, the urine when cooled being loaded withropy mucus and clouded with phosphatic deposit. The calls to pass urine were very frequent, obliging him to rise almost every hour during the night, and there were both pain and difficulty in micturition. On examination with a bougie,