

CLINICAL NOTES ON SOME COMMON AILMENTS.

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SMALL POX.

(Concluded from page 267.)

Small pox is perhaps the most infectious disease that is met with in this country, and it is not only highly contagious from person to person, and through the medium of infected clothing, but is also transmitted through the air over a considerable distance, especially in the direction of prevalent winds. It has, for instance, been found that the incidence of small pox during an epidemic is much greater in houses that are situated near a hospital where the patients are being treated, and diminishes with increased distance from it. That this is due to the diffusion of particles of skin is shown by the fact that dissemination can be prevented by anointing of the skin of the patients in the hospital with oil. The infectivity of a patient bears no relation whatever to the severity of his illness; modified cases, for instance, being just as infectious as the ordinary or hæmorrhagic variety.

We come now to the influence of vaccination on the incidence and mortality of small pox. On this point there is an immense amount of literature, and carefully compiled statistics are numerous. I do not propose to discuss these in detail, but it will be well to mention certain points which bear on the medical side of the question. Practically speaking, we may say that a person who has been vaccinated in infancy, and again at the age of ten or thereabouts, and subsequently on the first appearance of small pox in his locality, cannot contract small pox, except in an exceedingly mild form, and certainly cannot either die from or be permanently marked by it. Then, if we take those who have been efficiently vaccinated in infancy only, the chances are that complete protection is afforded for seven years, and that after that they will probably have it, if at all, in a mild or modified form only; complete protection, however, is only afforded by re-vaccination as previously described. Thus, amongst unvaccinated persons, the mortality is at least 35 per cent., while in those vaccinated in infancy only it is 6 to 8 per cent. Again, in these last, the mortality amongst those who show only one or two vaccination marks is 7 per cent., while with four marks it is only 2.4 per cent.

The prejudice against vaccination, which amongst some has been exalted into an article

of pseudo-religious belief, depends upon the undoubted fact that, in the past, certain diseases, notably syphilis and erysipelas, have been inoculated into previously healthy children with vaccination, and deaths have occurred also from septic infection similarly introduced. It must be borne in mind, however, that vaccination was then commonly performed directly from arm to arm, and that, too, without any attempts at asepsis. When a child who was suffering from syphilis, for instance, was selected for vaccinating others from, disease was frequently introduced in this way, and abscesses and pyæmia similarly resulted from the absence of aseptic, or antiseptic, technique. Nowadays vaccination from arm to arm is obsolete, and the operation is usually performed with calf lymph prepared in the Government laboratory with glycerine, which kills all organisms except those of vaccinia itself. Consequently, if this lymph is used with the precautions usual for a surgical operation, namely, sterilisation of the skin and instruments, followed by covering up the site of inoculation with an aseptic pad, the procedure is practically free from the risks mentioned above. When instances are given, by those opposed to vaccination, of these disasters, it will practically always be found, on inquiry, that they took place in the days of arm-to-arm inoculation, or that the operation was not performed aseptically.

Two instances may be given of the practical effect of vaccination in practice. In Montreal, from 1870 to 1875, there was an epidemic of small pox, which was followed by a wave of prejudice against (arm-to-arm) vaccination on account of the existence of several instances of inoculated syphilis: there were, indeed, anti-vaccination riots. Consequently, a large unvaccinated population grew up. In 1885 a case of small pox appeared, having been imported from Chicago, and in the next ten months many thousands were attacked with this disease, and 3,164 died of it.

Another instance is interesting. In Germany, re-vaccination is compulsory, as well as infantile vaccination, with the result that small pox has been stamped out completely in the German army, and, indeed, practically throughout Germany itself. Now this was attributed, by some anti-vaccinators in this country, to the extreme care that was taken to isolate cases of the disease whenever it has been imported, so an investigator went to Germany to see how they did it. He found that the "extreme care" resolved itself into the fact that there was no isolation of small pox

[previous page](#)

[next page](#)