A PRACTICAL TREATISE ON SMALLPOX

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649351381

A Practical treatise on smallpox by George Henry Fox

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

GEORGE HENRY FOX

A PRACTICAL TREATISE ON SMALLPOX

Trieste

PREFACE.

WHENEVER a physician is called to a case of suspected smallpox, he confronts a grave responsibility. If young or without special experience, he is apt to feel a sore need of assistance, and, although a book can never take the place of an experienced consultant, it is the object of the present work to render him as much aid as possible. The text aims to be practical rather than elaborate. The plates are reproductions of photographs from life, some of which have been obtained under great difficulty.

While many articles on variola have been illustrated by a few photographs of cases, mostly of the pustular type, this work is believed to be the first which has presented illustrations of the smallpox eruption in each of its successive stages. It is sincerely hoped that the reader will find it of service in familiarizing him with the peculiar features of the disease.

GEORGE HENRY FOX.

SMALLPOX.

CHAPTER I.

SYMPTOMS AND COURSE.

VARIOLA, or smallpox, is an acute, contagious disease, characterized by an eruption upon both the skin and mucous membrane, with constitutional symptoms of greater or less severity. The eruption presents successively a macular, papular, vesicular, and pustular stage, the pustules finally drying into crusts, which fall and leave the skin temporarily discolored. Where ulceration has occurred it is permanently scarred or pitted. The lesions of the mucous membrane appear upon those parts more or less exposed to the air,—the mouth and eyes, for example,—but in exceptional cases they may be found throughout the entire intestinal tract, and in the uterus and bladder. These lesions do not run a course similar to those observed upon the skin, but appear as red macules, which rapidly change into ulcerations, covered with a whitish pellicle. The ulcers are imbedded in the substance of the mucous membrane and are not as superficial as in cancrum oris. The constitutional symptoms are most prominent during the periods of invasion and pustulation.

There are various clinical forms of smallpox, which may be conveniently described as (1) discrete, (2) confluent, and (3) hemorrhagic, or malignant; and then, according to intensity, as (*a*) very mild, (*b*) mild, and (*c*) severe. The few purpuric spots seen in the severe discrete and the confluent forms are not of great significance, as they are generally due to a peculiar diathesis, and as a rule the patient recovers. The malignant form is almost invariably fatal.

The term discrete implies that the lesions are separate and distinct, not coalescent. If the lesions coalesce and form patches of various shapes and sizes, the eruption is called confluent. For the purpose of differentiating the various forms above mentioned, it is convenient to first trace a normal, unmodified case of smallpox from the initial symptoms to recovery, and then to consider the severe forms, and finally the rare and obscure forms of the disease.

Period of Incubation.—This extends from the date of exposure to the occurrence of clinical symptoms, a period usually lasting from twelve to fourteen days.

Period of Invasion.—The disease is usually ushered in by fever, with a distinct chill or chilly sensations, headache, neuralgia, and a general malaise. Frequently the first symptom is a distressing backache. This is located in the lumbar region, but it may be as high up as the lower angle of the scapula, or it may be sacral and extend down into the thighs. The backache is an important symptom when present, but it is not always on hand to help one out in the diagnosis. The backache of smallpox is not peculiar or distinctive, but it is its severity which attracts attention.

The headache is usually frontal and is an ache that is constant in character. The neuralgia is about the orbits, but may be facial, and is of a lancinating character.

The fever may precede the backache or it may follow. It may be at first a rise of only a degree or two, or it may jump to 104° F., or as high as 106° F. The latter is most frequently seen in neurasthenic subjects and in children. The pulse rises in frequency and in tension.

In children a convulsion not infrequently ushers in the disease. At this time convulsions are of little significance, but late in the disease they are of serious import. There are other constitutional symptoms, such as loss of appetite, vomiting, muscular pains, a dry, coated tongue, and at times an active delirium.

The face is congested and swollen. The eyes are injected and present a bleared appearance, but the watery or weeping condition seen in measles is usually absent. The nose is dry, and a sore throat is not uncommon. Epistaxis is frequent.

A very important symptom which sometimes occurs in this stage is a cutaneous efflorescence, which may resemble urticaria, scarlet fever, or measles. This latter resemblance is very close and often leads to diagnostic error. The efflorescence occurs most frequently in the young, and also in vaccinated adults. In some epidemics it is not at all uncommon, but as a rule it is rare.

The duration of the stage of invasion varies from two to four days. Usually it is about three days.

Period of Eruption.—Late on the third day or early on the fourth the eruption makes its appearance, and the constitutional symptoms subside to a certain extent.

The rash appears first on the confined and moist portions of the skin or in irritated parts,—under a blister, for instance, which may have been applied for the backache. Normally, it is first seen upon the forehead at the hair-line, then behind the ears and down the tender part of the neck. It gradually extends down the trunk and arms, the hands and lower extremities being affected last. The eruption generally takes from

twenty-four to thirty-six hours to cover the entire body. The best location to observe the rash for diagnostic purposes is on the back, where it cannot be obscured by scratching and where the warmth of the body causes the mildest congestion to appear at its best. The exposed parts are usually ill adapted for study of the rash, being obscured by the swelling and congestion of the face and by more or less dirt or staining of the hands.

The rash consists first of small round or oval, rose-colored macules, which seem to be in the skin, coming up from beneath it, as it were. They disappear readily on pressure or on tension of the skin. When coalesence occurs, the lesions may resemble the blotches of measles. The macule at this stage is about from one-eighth to one-fourth of an inch in diameter, and its color is of an intense red which shows well at night, even by the light of a match. In less than twenty-four hours the centre of the macule becomes hard; and as this hardness increases, the lesion gradually rises above the skin. It is now changing into the papular stage. The macular stage lasts usually from eight to twenty-four hours.

The papules continue to increase slowly in size, the apex becoming flattened or indented in some lesions. While this change is going on the redness of the macule forms an areola about the hard portion or central papule. This areola tends to get smaller as the papule gets larger, and at last is completely lost.

If the pulp of the finger is passed over the papule, especially in its early stage, the latter seems to roll beneath it, giving the sensation of a small shot buried in the skin. When the papule is fully developed, the surrounding skin is put on the stretch, and the rolling sensation is lost, but the papule is so dense and hard that it is frequently described as "shotty." The papule of varicella and of acne is not so dense and resisting as the papule of variola. The fully-developed papule in smallpox is rarely surrounded by a halo of congestion as it is in varicella, but in the modified form of smallpox this is not infrequently the case. The papule always arises from the centre of its halo like a bull's eye, whereas in chicken-pox it arises from within the circumference, but not always in the centre. The halo of congestion in chicken-pox is always very broad and extensive, and is best seen upon the back. When a halo is present in smallpox it is very narrow and insignificant. The papule is usually fully developed in twenty-four hours.

At the end of another twenty-four or thirty-six hours the apex of the papule shows a further change. It appears to be transformed from a solid to a fluid. The color also changes as the fluid increases, and the lesion appears bluish or purplish. The fluid continues to increase in amount until the papule is converted into a little blister or vesicle. As the change is going on, the height of the papule grows less and less, and

when vesiculation is complete we have a broad, flat, umbilicated vesicle with a firm, dense base. To the touch these vesicles are firm and resisting, and the membranous covering is not easily broken, unless macerated by the perspiration due to heavy flannels.

The vesicle is divided irregularly by little bands, or septa, which permit only a portion of the fluid to escape when one is punctured. Vesiculation is usually complete about the third day, and the stage generally lasts three days. It may be stated here that the reckoning in smallpox is usually from the appearance of the rash. The period of incubation and invasion are considered in reckoning the length of illness, but in descriptions of smallpox it is considered best to state the day of the eruption, and not of the disease.

There is an old and oft-repeated statement that a uniform rash is a characteristic of smallpox and that a mixed rash indicates chicken-pox. This deserves to be promptly refuted. It is most unusual to find a case of smallpox with its eruption all in one stage. While it is a well known fact that chicken-pox runs a hasty course,—so that in from one to two days we may have macules, papules, vesicles, and even crusts,—in smallpox this is not likely to occur, as the disease never runs such a rapid course. In the early stage we may see macules changing into papules on the head and the neck, while there are simply macules on the trunk. Later in the disease the eruption may be vesicular on the head while still papular on the body. When vesiculation is complete, we have the distinct umbilicated appearance that has long been recognized as a characteristic of smallpox. The vesicles are broad, firm, flat, and hard, and are invariably indented or umbilicated.

It is not until the stage of vesiculation that the constitutional symptoms diminish to a marked degree. In fact it is considered one of the landmarks of the disease for the fever curve to show a decline at this time.

Late in the fifth or early in the sixth day the vesicle begins to assume a cloudy or yellowish hue, which denotes the commencement of pustulation. The fluid continues to grow more yellow, and about the time that it has assumed a dense straw color the umbilication begins to disappear, so that in from one to three days the pustule loses its indented appearance and becomes globular in form. To the touch it appears to involve as much of the skin below the surface as it is high above it. It is during the stage of pustulation that the surrounding skin becomes swollen and œdematous, with an area of redness about the pustules giving the appearance of a bull's eye. It is also during the pustular stage that the constitutional symptoms become more intense and the fever rises in proportion to the severity of the attack. The pustules are fully matured about the eighth day of the eruption.

During the pustular stage the affection of the mucous membranes reaches its height. The eyelids, lips, and nose are often tremendously swollen. The tongue swells and deglutition becomes impossible. The voice is husky, and is sometimes lost, owing to the swelling of the glottis.

About the ninth or tenth day of the rash another change appears in the pustule. In mild cases this change sometimes takes place several days earlier. In the centre of the pustule is observed a small, darker spot, which gradually grows larger. The membrane of the pustule becomes shriveled, and the little, dark spot continues to get larger and darker until it involves the entire area of the pustule. This is the drying stage, during which the fluid part of the pustule is absorbed, leaving the solid part behind to be exfoliated in the form of a crust. It is during this stage that, owing to the softening of its membranous covering, the pustule is broken by the movements of the patient or the contact of rough bed-linen. The pustules of the face are usually the first ones broken, and an ulceration frequently occurs which destroys the true skin and results in a pit or scar. Pustules do not rupture spontaneously and discharge their contents. Dessication lasts usually from five to twenty days, the exposed parts being the first to dry and shed their crusts. On the palms and soles the dessicated débris is left deeply buried in the skin, and often has to be removed by the aid of a lancet or other instrument. Sometimes there is a pustule under the nail, and the removal of the kernel or seed is quite painful, though necessary.

The crust is usually thin, of a light yellowish-brown tint, but slightly adherent, and is shed or picked off without discomfort. The spot where the crust has been is of a deep purplish hue, and the many little stains here and there give the patient a peculiar spotted appearance, which in time disappears, except where the ulceration has left a pit or cicatrix. The pit soon loses its color and becomes of a whitish hue.

As dessication proceeds the constitutional symptoms decline, the appetite returns, and the patient gains strength.

Complications.—Sepsis is the one generally to be expected, and this may assume any form from a local affection, such as a furuncle, to a general septicæmia. Furunculosis is frequent and is often annoying, and no sooner is one boil healed than others follow. Bed-sores are also frequent if proper care is not used to prevent them. Bronchitis from the affection of the mucous membranes may occur. When simple, this can be handled easily; but when general pneumonia results, death is inevitable in the weakened condition of the patient. Ulcers and opacities of the cornea, laryngitis and croup (the latter generally fatal), zoster, sciatica, nephritis and gastritis, are all frequent complications, especially in severe cases.