

thought best to let her try to deliver herself. Her efforts were futile, however, the presenting part refusing to engage. In this case no attempts were made to deliver with forceps, and but one vaginal examination was made during labor. My judgment prompted me to make the cesarean section.

To illustrate still another way of attacking a labor complicated by a moderate degree of pelvic contraction:

CASE 4.—A young primipara with a true conjugate of 8.5 cm. was sent to St. Luke's Hospital on the first signs of labor and without delay submitted to cesarean section. Her recovery was as uneventful as a normal labor. Besides, she was spared many hours of useless pain. To have her baby was about as much of an ordeal as a simple appendectomy.

Here are pictured the three or four methods of dealing with a relative deformity of the pelvis. Which is the best? Which is the safest for both mother and child? Why not induce premature labor? Why not separate the pubic bones? Why not deliver through the abdominal wall? These are questions which I, at least, cannot answer definitely and conclusively, so much depends.

If time permitted I should enjoy a discussion as to the advantages of the various procedures touched on, but will content myself by saying that personally I prefer the scalpel if the pelvic diameters make one or the other operation necessary. At any rate I will say that not a life has been lost in four recent cases in which I have performed cesarean section, which is better than can be said of the last four deliveries made by the high application of forceps.

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THE CONTROL OF TYPHOID INFECTION

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The typhoid problem in Wilmington as elsewhere is occasioned by the exposure of infected feces to flies, and by the pollution of the soil and water. In rural districts, towns and small cities where the use of the sewer is limited or does not exist, it is obvious that the first attempt at typhoid control must be directed toward the sanitary disposal of human excreta, more especially that of typhoid patients.

In the absence of a system of sewers the sanitary disposal of excreta is not so simple as it would at first appear. All forms of the sanitary privy are open to objections and most of these objections are easily magnified by property owners who desire to avoid expense and citizens who are unwilling to complicate their manner of living. The ordinary open surface-privy appeals strongly to the ignorant because all fluids are readily absorbed by the earth and the solids when unconfined rapidly become inoffensive. The sanitary closet, if not cared for properly, soon becomes offensive, and this is a powerful factor in the creation and continuation of the objection to its use.

There were more than five thousand surface-privies in Wilmington at the beginning of June, 1911. The death records of the health office furnished conclusive evidence that typhoid fever had been endemic for a great number of years. An estimate of the number of cases occurring each year made from the number of deaths from this cause shows an average for the five years preceding 1911 of two hundred cases each year, and the time of greatest frequency invariably occurred during the summer months, which indicated fly-borne infection.

The inauguration of the new health department in Wilmington, June 1, 1911, occurred while a rapidly spreading epidemic of typhoid was in progress. Our first efforts were directed to the destruction of the fly which was obviously the means of transmitting this disease. Along with this went the effort to introduce the sanitary privy. All surface-privies, manure-heaps and places in which flies could breed and feed were repeatedly saturated with pyroligneous acid. The result of this procedure was a prompt checking of the spread of the epidemic. This work was done at the expense of the municipality.

The introduction of the sanitary privy was strongly opposed. Property owners objected to the expense and those who made use of the sanitary privy and who neglected its care complained widely of its offensiveness. This opposition was strong enough to interfere with the enforcement of the sanitary closet ordinance to such an extent that at the beginning of the summer of 1912 there were remaining in the city nearly three thousand surface-privies. Many of the sanitary privies which had been installed were not made fly-proof as required by the law. This condition of affairs practically insured a repetition of the annual epidemic of typhoid. The council failed to furnish funds for the use of pyroligneous acid and it was certain that no funds would be furnished unless pronounced epidemic conditions appeared. We determined if possible to prevent the recurrence of the epidemic which had been so long a fixture in this community and to that end adopted the following plan:

Each sanitary closet-can, when removed for cleaning, was thoroughly scrubbed and disinfected, and before being replaced in a closet was filled to one-third of its capacity with a disinfecting solution of known typhoid bactericidal efficiency. In addition a circular letter was addressed to every physician in the city requesting him to notify the health office as soon as the symptoms in any suspected patient suggested typhoid, and to use every means in his power to secure the screening of the patient and the disinfection of all excreta. The health office agreed immediately on notification to cooperate with the physician in his efforts to render the case innocuous. To prevent any typhoid excreta from going through the sewers into the Cape Fear River the health office was to supply every household in which there was a case of typhoid with a steel can in which the excreta from the patient might be kept and disinfected.

This plan went into immediate effect and since May 1 it has been in continuous operation. Both physicians and citizens cooperated fully and the results have been extremely gratifying. As soon as a suspected case of typhoid fever is reported a galvanized steel can of 12½ gallons capacity, containing 3 gallons of disinfecting solution and supplied with a tight lid, is sent to the house of the patient. An extra quantity of disinfectant is supplied for the disinfection of bed linen and clothing. Another can is provided, if desired, for use in disinfecting these articles. The can containing the disinfected excreta is placed in an out-building, kept tightly closed at all times, and is removed, cleaned and redisinfecting as often as is necessary, without cost to the citizens. New cans are furnished for every exchange in order to prevent the possibility of offense which might be occasioned by the use of a previously used can. As a result of our efforts we recorded during the month of May, 1912, but 6 cases of typhoid fever; in June, 20 cases; in July, 10 cases; in August, 12 cases, and in September, 11 cases. During the same period in 1911,

250 new cases were reported. Recognizing the fact that the excreta of the typhoid case constitute practically the only means of transmitting this disease, and realizing that from the great number of typhoid cases which have occurred in this city each year for many years past there must be a number of typhoid carriers in this community (it is obvious that our plan of prevention could not reach these), we must conclude from the results that infection from current cases has been prevented to a very gratifying degree.

Typhoid is essentially a disease of the rural districts, small towns, and small cities where human excrement is not immediately conveyed beyond the limits of infection possibility through sewers, and where thorough disinfection of typhoid excreta is least likely to be practiced. The plan we have used cannot be carried out successfully where the population is so concentrated and numerous as in the larger cities. Thus the disease and this plan of prevention seem eminently suited to each other.

UNUSUAL EXPOSURE TO LIGHT FOLLOWED BY SEBORRHEIC KERATOSIS

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Seborrheic keratosis is a common cutaneous disease which most frequently occurs in elderly people, and especially, as its name implies, in those who have a seborrheic skin. Light, especially the actinic rays of light, is now considered to be in many cases the exciting cause of the trouble. There is no direct evidence in support of this view, but there are a number of phenomena difficult to interpret in any other way:

1. Patches of seborrheic keratosis begin very frequently as small pigmented spots, and the formation of pigment is a well-known effect of the action of light.

2. Seborrheic patches occur most commonly and most profusely in persons exposed to light.

3. They appear almost exclusively on the exposed surfaces of the face, ears, neck and back of the hands, and the lesions, as a whole, are analogous to those of xeroderma pigmentosum, a disease in which light is known to be the exciting cause.

4. Furthermore, chronic dermatitis from prolonged exposure to x-rays, which are particularly actinic, presents the same set of symptoms as xeroderma and seborrheic keratosis, and eventuates, as they do, in epithelioma.

To demonstrate what an important rôle light plays in the development of seborrheic keratosis William Dubreuilh collected the material in his clinic in Bordeaux and found that of 162 patients, 101 had outdoor and 61 indoor occupations; that is to say, 62.5 per cent. of them were exposed to the sun, while 37 per cent. were not.¹

The following case is so instructive in regard to this question as to be well worth a short consideration:

The patient, an officer in the U. S. Navy, aged 56, in excellent general health and with the fair, fine skin of those of northern European extraction, consulted me on Sept. 22, 1911, on account of a large number of seborrheic keratoses which he said had first appeared about ten years previously as brown discolorations. The patches were principally situated along the lower jaw, in front of the ears and on the rim of the ear-shells. Some of the patches were just roughened and covered by tightly adherent scales; others were reddened and desqua-

inating, while still others were infiltrated, reddened and covered with a hard or crumbly, soft crust. Some of the latter, when curetted, showed that the disease process had extended down into the true skin, and therefore had undergone epitheliomatous degeneration.

There was a large number of deep brown spots, larger and darker in color than freckles, across the middle of the face and on the back of the hands. Here, however, the pigmented spots were not roughened. These spots and the roughened patches had appeared coincidentally, and all were subsequent to a severe and prolonged exposure to sunlight, of which I shall speak later. The sebaceous glands of the nose and of the adjacent cheeks were patulous and plugged with comedones, the result of a rosacea due to indigestion, from which the patient had continually suffered while at sea, but from which he recovered on getting the better food incident to shore duty.

In the course of conversation regarding the cause of the degeneration evinced by his skin, the subject of light as a possible factor was mentioned, and the patient related the following very interesting bit of personal history:

His skin gave him no trouble till between the years 1883 and 1886, when he was engaged in the Coast Survey. For many hours of each day during these three years, he was out in a small boat plotting figures on a sheet of white paper stretched on a board. In this occupation, therefore, he was exposed to the direct rays of the sun, and also to those reflected from the water and from the white paper, and suffered severely from sunburn and from irritation of the eyes and eyelids. It was interesting to note that the affected areas along the jaws, in front of the ears and the integument of the ear-shells occupied exactly the situations well known to suffer severely in burns from the reflected light of snowburn and waterburn. It is also known, as pointed out by Jesionek, that the skin in front of the ears and of the ear-shells is particularly apt to show a patchy sensitiveness to light, corresponding in this respect, therefore, to the patchy nature of the patient's trouble.

There was another interesting point relating to the chief situation of the seborrheic patches in this case. The patient had suffered from rosacea, which is one of the seborrheides, and the middle zone of the front of his face was still seborrheic, as shown by its patulous, plugged sebaceous gland-ducts. It is on this kind of skin and in this situation that seborrheic keratoses tend to form, yet there were none present. Light on these surfaces had caused only deep freckling, such as was also present on the back of his hands. Nor were his eyelids affected, although they had suffered severely in the exposure to light. These are strong points showing that the patient's skin was not predisposed to the formation of these keratoses, and that it was not particularly sensitive to this action of light; but that it was rather the long-continued exposure to a light rich in actinic rays which set the degeneration in motion.

Snowburn, especially in the mountains and on glaciers, is much more severe than waterburn, and waterburn is severer than ordinary sunburn. There are two factors contributing to this: Light at high altitudes is much richer in actinic rays than light at lower levels, because as light travels down through the atmosphere it loses its actinic rays by absorption much more rapidly than its heat rays. We, therefore, who live at the bottom of the aerial ocean, are used to a light much poorer in actinic rays than that which we get when we ascend into the mountains.

There is still another reason for the severity of snowburn. A fine white powder, such as snow, readily absorbs the long waves at the red end of the spectrum and refracts the short ones at and beyond the violet end, so that not alone is the light itself at high altitudes richer in actinic rays than that to which we are ordinarily accustomed, but a greater proportional number of those rays are refracted, and they therefore con-

1. Dubreuilh, W.: Epitheliomatose d'origine solaire, *Ann. de dermat. et de syph.*, June, 1907, p. 887.