

single or multiple, may vary in size from that of the head of a small pin to a diameter of several millimetres; the process may be exhausted with the eruption of one phlyctenula, or successive crops appear at irregular intervals; they may be situated on the conjunctiva, or cornea, or both, either successively or simultaneously, or may extend from one to the other. The duration of the individual efflorescence depends in the main upon its size and its situation; on the cornea the course is slower than on the vascular conjunctiva. The amount of irritation is far from being in definite relation to the severity or danger of the disease.

On the conjunctiva the eruption develops almost invariably in the near neighborhood of the cornea, and shows itself in two forms, the typical cases of which are sufficiently distinct in appearance. The more common is that of an isolated efflorescence. Beginning as a localized, elevated congestion, the centre soon becomes grayish-white or with a tinge of yellow, due to an agglomeration of lymphoid cells. The epithelial surface is thrown off, the mass of cells beneath escapes, and there is left a depression with raised edges which gradually flattens and is again covered by epithelium, while the congestion fades. Around the pustule both conjunctival and sub-conjunctival vessels partake in the congestion; toward the fornix, where the conjunctiva passes from globe to lid, the conjunctival congestion extends, diminishing in amount, but often increasing in breadth as it recedes from the focus of inflammation, so that the whole congested region assumes a fan shape.

Comparatively seldom, however, does the patient present himself with this typical form of congestion. Oftener, other pustules appear in various positions simultaneously or before the first has healed, and the congested area thus becomes a wide one with reddening of the lid conjunctiva also. If the individual pustule is small and superficial it may run through its whole course in a very few days. From this there is every graduation to the sluggish, somewhat deep ulceration, three or four millimetres in diameter, its base ragged, grayish, infiltrated, which may be a fortnight in healing over.

The other, less frequent, type consists in the almost simultaneous development of small, often very minute, phlyctenulae, studded along a part or the whole of the limbus conjunctivae, close to the corneal border. The attending congestion is more general, though greatest in intensity here also at the site of the eruption. The duration of the individual phlyctenulae is short, but successive crops follow each other more or less rapidly, and extend the time indefinitely. Both forms begin with a sensation of burning or smarting as of a foreign body, more marked in the latter variety.

So long as the affection is confined to the conjunctiva alone the subjective symptoms are comparatively light, and the prognosis is positively favorable, even if the course be somewhat pro-

longed. Yet, until convalescence is fully established, the danger that the cornea too may be implicated is always threatening, and when that occurs the situation becomes more serious.

The manner in which the cornea becomes involved varies. A pustule may fall astride of the corneal edge, half in conjunctiva and half in cornea. Should the pustule be small it will generally heal readily and do no damage, but a large pustule in this position may give rise to a deep, funnel-shaped ulcer and to infiltration of the cornea beyond it. It is not so very uncommon for such an ulcer to extend in depth and cause perforation. The so-called fascicular keratitis commences as a pustule in this position. Here, instead of following the normal course, the infiltrated raised edge of the ulcer is pushed farther and farther into the cornea, the tissue breaking down and leaving a groove in the corneal substance behind it. At the same time a bundle of new-formed vessels extends from the conjunctiva, keeping pace in its growth with the progress of the infiltration, filling, or more than filling, the groove, while only a scarcely perceptible depression separates its corneal extremity from the gray, crescentic wall which precedes it. Usually the infiltration moves at first toward the centre of the cornea, but it generally swerves a little from a straight line. It may stop at any part of its course, or cross nearly to the conjunctiva on the opposite side. It never perforates, but the vessels disappear when the process is at an end, leaving a grayish cicatrix, which is exceedingly persistent and characteristic.

Different, again, is the behavior where there are numerous small phlyctenulae along the edge of the cornea in the limbus. Then, if the condition persist some time, vesicle following vesicle, the irritation excites the growth of vessels from the edge into the cornea close beneath the epithelium. The progress of the vessels depends on the degree of the inflammation at the site of the efflorescence, and they extend farther where this is greatest, but the regularity with which a fringe of straight vessels is formed along the whole circumference of the cornea is sometimes very striking. With the subsidence of the inflammation in the limbus the corneal vascularity vanishes without leaving a trace. More than a superficial ulceration of the cornea, hardly extending deeper than the epithelial layer, I have never seen with this form, but an infiltration, leading to annular ulceration of serious amount, is described as a very rare complication.

If the cornea is affected independently the pustules show the same variation in their behavior as on the conjunctiva. There is the same difference in size and number, the same irregularity in the time of their successive appearance and in their duration. They may present themselves at any part without distinction. There seems to be no place of least resistance. Congestion about the pustule is, of course, wanting,