

to associate them with any particular causative nerve lesion. Zoster is peculiar in this, that associated with the pain and eruption of inflamed, often gangrenous, vesicles and loss of vitality in the site is an inflamed condition of the corresponding nerve and its sheath, the subsidence in which is attended with the disappearance of the eruption; not always, however, with entire disappearance of the indications of disturbed nerve function, as evidenced by the persistent hyperæsthesia, or more often, I think, anæsthesia that remains sometimes permanently. In a recent case I found anæsthesia present over three months after the subsidence of the eruption, and in another the skin was insensible to the prick of a pin more than a year after; both these cases were lumbo-femoral, but I have seen the same thing also in intercostal zoster. Zoster would seem in some respects to be allied to the exanthemata, such as smallpox, measles, etc., since, like them, it runs a definite course, usually of about ten to fifteen days, which is not altered or lessened by treatment; and attempts at aborting the attack by local measures, such as nitrate of silver, not only, I think, invariably fail, but tend to make the disease more severe. Another point of resemblance is the occurrence of zoster more frequently at certain times than others, so as to be almost epidemic. It has been especially prevalent during the past winter, and I have noticed the following distributions of the eruption, two of the ordinary intercostal variety, two lumbo-femoral, one occipital, the eruption commencing near the root of the neck and extending upwards into the scalp nearly as far as the anterior fontanelle, and round the side of the neck to the angle of the jaw on the right side. Another case was remarkable in commencing near the spine about the middle of the nates and passing forward. The patches of vesicles extended down the outside of the thigh; a line, however, extending along the upper and anterior surface of the thigh and along the dorsum of the penis. Another case attacked the shoulder and the line of distribution was over the supra-spinal region of the scapula. This is rather a digression from the point I was referring to, the resemblance of the disease to the exanthemata; and no one, I think, can see the often well-defined vesicle, with its strongly inflamed base, without being remind-

ed of that of smallpox. I do not know whether the subject has ever been investigated with the view of ascertaining whether the condition of the roots of the spinal nerves or the cord itself in variola presents a similar appearance to that of zoster, but there would seem to be reason for expecting such a condition when the severe pain in the back that precedes the variolous eruption is compared with the neuralgic pain preceding and accompanying zoster.

Into the question of the pathology of zoster, I do not feel able to enter. I know of no investigations more recent than those of Haight and Budiasecki referred to by Tilbury Fox. They found the nerve swollen in the neighborhood of the disease, the neurilemma filled with small round cells, the medullary substance and axis cylinder enlarged. It has been suggested that the real seat of the disease is not in the nerve trunks themselves, but in the sympathetic nerve fibres of the spinal ganglia, which affect tissues through the trophic which arise from these ganglia (Barunsprung, quoted by Tilbury Fox); but this seems to be more conjectural than actually proved.

Lastly, as to treatment. As I have already remarked, attempts at abortive treatment have generally been failures, as might be expected from the cause. The disease occurs for the most part in persons whose vitality is low, either from age, mental depression and worry, or debility, however caused; hence, as a rule, the chief indications for general treatment are for plenty of light, easily-digested, nourishing diet and tonics, such as mineral acids and strychnia. The affection is self-limited, and its course does not appear to be altered by any treatment. Locally, our efforts are chiefly directed towards the relief of pain, and works on medicine give various remedies that have been used for this purpose. I shall only refer to what I have myself found beneficial. If the pain is great and prevents sleep, I usually give an opiate internally, either morphia or Dover's powder, and find them more efficient than bromides or chloral, or the antipyretics, antiebrin, antipyrin or phenacetin. I have used all these, but think them inferior in this affection to morphia. Locally, I have found more relief follow a 10 percent. solution of menthol in olive oil frequently applied than anything else, though sometimes ointments or collodion containing atro-