

noted in 83 per cent. of this series. It is frequently absent for the first twenty-four to forty-eight hours or more. In many cases attempts to straighten the head cause

(1) Pain referred to the neck and occiput.

(2) Dilation of the pupils; probably due to irritation of the cervical sympathetic. This latter symptom is useful in differentiating it from the retraction found in pneumonia and gastro-enteritis in children.

*Headache* is usually the first symptom of the onset. Headache is always an early sign and was reported absent in only one case of our series (98 per cent.). It is frequently general at first, but rapidly becomes localized in the occiput; and the pain extends down the neck and spine. Usually severe, it may be agonizing in character, and is frequently accompanied by giddiness.

*Delirium* is another frequent symptom and is often early in its appearance. It may be found within six to twelve hours of the onset; in other cases it does not appear till later in the disease. It was present in 60 per cent. of this series and showed all variations from the mild form with a little wandering only at night, to the active, violent form with constant tossing and restlessness. With the onset of profound stupor and coma, the delirium may disappear.

The mental condition of the patient in a severe case presents, within a few hours of the onset, a certain dull, dazed condition, which increases to a semi-conscious state in which the patient seems in a dull reverie, but from which he can always be aroused when addressed. Later profound coma makes its appearance, gradually deepening till all response to stimulation disappears.

*Coma* was recorded in 67 per cent. of our series. In the virulent fulminant cases profound coma may set in early and is always of grave prognosis.

*Hyperæsthesia of the Skin* is frequently found present, and is most marked early in the disease. From my personal experience it has been a very constant symptom, but disappears with the onset of profound coma. It is probably caused by an inflammatory irritation of the nerve roots. In this series of 46 cases it was noted present in 11, in 4 it was absent, and in 31 it was not reported at all.

*Muscular Twitchings* occurred in 30.4 per cent. of this series. No group of muscles seem to have been affected with any degree of constancy, but twitching of the arms and legs were most frequent. The muscles of the face and calves of the legs were also mentioned.

*Convulsions*.—General convulsions, as previously stated, are not uncommon at the onset and occurred in 10 per cent. of this series.