

MEDICAL SCIENCE

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TYPHOID FEVER IN OTTAWA.

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THE outbreak of fever which occurred in Ottawa during the months of September, October, November and December, has presented many notable characteristics, some of which I propose to mention.

It has been remarkable for its suddenness of onset, the intensity of its prevalence becoming apparent about the end of the first week in November; for its appearance simultaneously in all parts of the city; and for its diverse and varied symptomatology, remittent, intermittent and asthenic forms of continued fever abounding. The temperature in very many cases was irregular, not following the typical rise for four or five days with persistence for a week, and then having a gradual fall; but a morning remission was present, while constipation was present and marked in 95 % of cases. Diarrhoea occurred very seldom. In 40 % of cases tenderness in the right side, and spots were not present, and a large number of cases were ushered in by tonsillitis; this, in some cases, masking the real disease. The range of temperature and course of the disease has been markedly mild, the mortality not exceeding 3 per cent. The typhoid of the text books was rare. The incubation period was not marked in the majority of cases. Abortive cases of typhoid were somewhat common, being over 10 per cent. of cases. During the four months of the epidemic I attended 112 cases of fever; 6 cases occurred in September, 5 in October, 68 in November, and 33 in December. Of this number 53 were males and 59 females; 6 were under five years of age, 34 under fifteen years, 89 under twenty-five years, and 98 cases under thirty years of age. In every case but one the patients have been

water drinkers. I attended 20 cases in houses not connected with any drainage system whatever, and many others in the suburbs, wherever the water supply of Ottawa reached. As to complications, tympanites occurred in 50 per cent. of cases, peritonitis in 20 cases, diarrhoea in 5 cases, pneumonia in 3 cases, occurring at the end of the third week; thrombosis in 1 case, bronchitis in 4 cases, tonsillitis in from 10 to 20, hæmorrhage from the bowels in 2 cases, and epistaxis in 6 cases.

As much has been stated and written on the question of the immediate cause of the outbreak, I propose to discuss some of the points which, in this connection, have come under my observation.

The causation may be divided into four possible causes. 1st. Atmospheric (local and general). 2nd. Condition of the city drains. 3rd. Contamination of milk. 4th. Pollution of the water supply.

With regard to the atmospheric conditions, it may be said as to sanitary conditions, that Ottawa occupies a commanding position; situated on a series of lofty bluffs; on the banks of a large and rapidly flowing river; having the Chaudière Falls, one of the largest torrents on the continent directly opposite the city, these together causing a current of air; being situated but seven miles from the Laurentides which lie directly west; considering that the winds which prevail during the summer and fall are westerly, the ozone from the Chelsea mountains is carried throughout our streets; also knowing that millions of feet of freshly sawn pine lumber are piled in a zone around the outskirts of the city, giving off the fresh aroma of pine gum; and also that the Ottawa district contains immense forests of pine situated not many miles from the city; also being aware of the fact that no large factories exist here, which by their smoke might