

piratory organs or in the digestive organs, or even in the joints. That a great many children are infected by their tubercular parents after birth is easy enough to understand, but that a child born of tubercular parents, but never exposed to infection, either by bacilli-laden air or bacilli-laden milk, could acquire tuberculosis, is a thing of which I have never seen or heard the slightest proof. Any evidence which has so far been brought forward on this point would prove much more easily that measles was a hereditary disease. This question of infectiousness is much more important than one might at first sight suppose. For, until the profession can be freed from the superstition of heredity there is little hope of tubercular diseases being stamped out, as they only can be by rigorous precautions against infection by the air or by the food.

If tubercular peritonitis then is not hereditary, as I hope no one here believes, by what means does the peritoneum become infected? Through the blood vessels or through the lymphatics? There would seem to be little doubt in the mind of pathologists that the lymphatics are the channels by which the bacilli gain admittance to the great lymph sac. The fact that the pleura and pericardium are connected with each other by lymphatics, and the frequency with which tubercular pleurisy and pericarditis exist as complications of tubercular peritonitis without the lungs being affected, together with the absence of bacilli in the blood, would place this contention almost beyond a doubt.

If this be the case, the bacilli must be introduced by the digestive or genital tract. Let us take first the digestive tract. Although theoretically a few bacilli might be swallowed with air, practically this would be a very rare cause of the disease. The large number of tubercular cattle which are killed on the farms or in small towns and even in private slaughter houses in large cities, so as to escape inspection, and the quantities of milk from tubercular cattle supplied to young children and others would furnish a bountiful supply of bacilli for the purpose of infection. Another method which might be termed auto-infection is that in which a patient with tubercular disease of the nose or mouth or larynx, or still more often of the lungs, swallows the discharge from these ulcerating surfaces laden with bacilli. They then pass through the absorbents and are at once grafted on to the peritoneal surface. Before long they are surrounded by phagocytes and are walled off by inflammatory exudation, so that they appear as little colonies or miliary tubercles. This process, however, at the same time causes adhesions of neighboring coils of intestine producing more or less pain, abdominal distension and interference with the processes of digestion. Strange to say, this does not always cause

fever; on the contrary, the temperature is often below normal.

In a large number of cases, 40 or 50 per cent. of the females at least, the disease has been found to co-exist in the tubes. At first, one might think that the disease in these cases had spread from the peritoneum down the fimbriated extremity of the fallopian tubes, were it not for the fact that in a large number of cases women have been known to suffer from tuberculosis of the vulva, vagina, uterus and tubes, without the peritoneum being at all infected. So that it is much more likely that the genital tract infects the peritoneum than that the peritoneum infects the genital tract.

The prevention of the disease depends most upon the detection and slaughter, at the expense of the country, of all the tubercular animals which might be used either for food or for giving milk, and the destruction of infected sputa from the respiratory tract of human beings. Only one step farther, though rather a long one, would lead us to the State undertaking the stamping out of the disease in human beings by the gathering together in a national sanitarium of all those who are at present acting as widespread centres of infection.

How to diagnose it is a more difficult question than any; so difficult, indeed, that it is rarely diagnosed at all. Dr. Gardner frankly stated in his paper that in only one of his five cases was the real nature of the disease suspected prior to the operation. The symptoms are very variable. There may be fever in some cases, while in others the temperature may be sub-normal. There may be very great or very little pain or tenderness. There may be diarrhoea or obstinate constipation. There may be effusion or there may be no effusion. There may be sweating, but this also may be absent. There may be tympanitis or the abdomen may be flat. There is generally nausea and anorexia, but occasionally the patient has a good appetite. There may be tumor-like formations due to adhesions of omentum and intestine, to the occurrence of which we are indebted for much of the increase in our knowledge of this subject, for it was in operating for supposed ovarian tumors, which they so much resembled, that the operative treatment of tubercular peritonitis was stumbled upon rather than invented. Pozzi mentions that out of 96 laparotomies in which this disease was found, in 37 of them ovarian or other tumors had been diagnosed. There are only two symptoms which seem to be constant, namely, rapid emaciation and great weakness.

Where so many diagnosticians have been deceived, the only sure means of making a diagnosis in all obscure diseases of the abdomen is to make a harmless exploratory incision, which will at once make the nature of the disease clear in the majority of cases.