basal congestion and of patchy pneumonic consolidation; the consolidated areas are usually localised, varying from an area corresponding in size to a marble to that of an orange. Around the airless patches a margin of crepitant and deeply-coloured lung tissue is to be found. The pleural surfaces are usually dotted with petechiae, and occasionally with fair-sized subpleural hæmorrhages. The linings throughout the respiratory tract are reddened, injected, and show here and there hæmorrhages in the submucous tissue; a frothy blood-tinged mucus is commonly found occupying the passages.

The changes in the other viscera of the body are similar to those met with in bubonic plague; but there are no buboes, nor are enlarged glands, as a rule, met with anywhere in the body.

Septicæmic Plague.

The glands, in septicæmic plague, over the whole body are congested and swollen, in most instances to only a small extent, but in one group and frequently in one gland of the group adenitis has advanced considerably. There are no buboes, but a gland may be seen as big as a hazel nut here and there. When cut into the glands are pink in colour and of a firm rather tough consistence, but, in some of the larger sized, localised areas of softening occur. The visceral engorgement and congestion with petechiæ and subendothelial and submucous hæmorrhages are features in septicæmic plague in common with all other varieties of the disease.

NOTES ON THE INTRODUCTION OF A CASE OF PLAGUE INTO THE NEIGHBOURHOOD OF CARDIFF.

By E. WALFORD, M.D., D.P.H.,

Medical Officer of Health for the Borough and Port of Cardiff.

THE danger of this country becoming infected by plague occurring on board vessels during a comparatively long voyage is one which cannot be ignored in view of the recent importation into the neighbourhood of Cardiff of an undoubted and tolerably well-defined example of the bubonic variety of the disease. The main facts connected with this particular case have been recorded, so that it will be unnecessary to add to any extent to the information already given. That the cases of illness which occurred amongst the firemen during the voyage of the *South Garth* from Rosario to King's Lynn were cases of plague is an assumption based almost entirely upon the light of subsequent events. If cases of pestis minor can be easily overlooked by medical practitioners, it is tolerably certain that they will not receive much attention at the hands of the ordinary master of a vessel, who does not as a rule exercise a very close medical supervision over his crew. The *South Garth* left Rosario about August 20th, and calling at Buenos Aires shipped in place of an old hand, who deserted, a new one—an Austrian—who acted as third engineer. When the steamer arrived at King's Lynn in September this man, who was seriously ill, was sent ashore to a hospital, but the nature of his illness, although a matter of great interest, has not yet transpired. The other members of the crew taken ill during the voyage were firemen shipped at Barry or Cardiff on the outward voyage to South America. The point of interest in the etiology is the determination of the method by which the disease was conveyed from Rosario and the infected ports in the River Plate to South Shields during a voyage of about thirty-three days. Apart from personal infection in connection with these doubtful or suspicious cases, there is the possibility of the cargo having become in some way infected, of some infected articles having been taken on board, and of the disease having been conveyed by means of rats. With respect to the cargo, it is to be remarked that this was discharged at King's Lynn between September 12th and 21st.

The man attacked with plague (W. G., the donkeyman) was found on his arrival at his house in Llandaff on Sept. 26th to be very ill, and had presumably been ill for some days. On admission to the Borough Hospital of Cardiff on October 2nd he had the appearance of a man in the second or third week of a severe attack of typhoid fever. The incubation would thus probably date from some time within the period of discharging the cargo of maize, and the origin may have been due to

the disturbance of this cargo. Rats were plentiful on board, and at various times several dead ones were noticed; possibly some of these rodents may have introduced the infection into the maize, and others may have become infected from it. There is no evidence that the patient was bitten or had touched any rat, and the method of infection in this, as in many other cases, remains obscure.

The chief precautionary measures devolved of course upon the rural sanitary authority in whose district the case occurred, and these consisted in the immediate isolation of the patient in the hospital of the adjoining urban sanitary district of Cardiff, in the medical examination of all persons who were in contact with the plague case, and the keeping under observation of "suspects" during the necessary period, and in disinfection or destruction of articles likely to be infected.

As regards the urban and port districts of Cardiff special precautionary measures have been adopted since the first introduction of the disease into Europe. Assistant medical officers and additional inspectors have been appointed to enable the authority to maintain an inspection of vessels from infected and suspected ports. Careful medical inspection of sailors' lodging houses is being carried out; inspection and cleansing of courts and dirty houses; circulars to medical practitioners relating to the notification of the disease. An infectious disease hospital has been provided with nearly 200 beds, and with separate buildings for the isolation of any such special cases, and furnished with a separate administrative department and staff. The destruction of rats on board vessels and in the neighbourhood of the docks has been carried out extensively during the past two months; about 2,000 of these animals have been caught and burned. The Port Sanitary Authority has, besides a hospital on the Flat Holm Island (about three miles from the shore), a very complete crematorium with mortuary and *post-mortem* room attached. The remains of the deceased, who died two days after admission into hospital, were on this occasion cremated in this apparatus, which was constructed by Messrs. Goddard and Massey, and, on the first occasion of its use, worked admirably, the entire remains being reduced to ashes in less than two hours.

The Port Sanitary Authority has compulsory powers under a local Act of Parliament for the cremation of persons dying from cholera, yellow fever and plague, but in this instance the full consent of the relatives was obtained.

As these remarks are only intended as an 'introduction' to the clinical and bacteriological notes which are of chief interest in this case, I have only to add that on this, as on many other occasions, the bacteriological laboratory, maintained jointly by the Glamorgan County Council and the Cardiff Corporation, was of extreme value, and the positive evidence of the presence of Kitasato's bacillus, given by Dr. Savage, our bacteriologist, at the earliest possible date, was completely confirmed by him by cultural and inoculation experiments, and by the subsequent investigation of Dr. Klein.

A CASE OF PLAGUE FROM A CLINICAL AND PATHOLOGICAL POINT OF VIEW.

BY

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THE rarity of plague in this country, and the completeness with which we were enabled to investigate the following case, is our excuse for giving the notes of it somewhat in detail. The vast majority of cases recorded and the bulk of work done in connection with this disease has been carried out abroad, and few cases are available for comparison between the disease as met with in tropical and in more temperate climates. This case agrees in the main with the classical descriptions derived from cases studied in the tropics.

CLINICAL REPORT.

History.

W. G., aged 38, donkeyman on board ss. *South Garth*, left