Lung is a form of respiratory allergy resulting from the inhalation of aerosols from mouldy hay. Symptoms are attributable to defects in ventilatory diffusion and appear in sensitized subjects four to six hours after exposure.

The major antigens are spores of *Microsporidium faeni*, a saprophytic and thermophilic actinomycete that grows in microbially decomposing hay that has reached temperatures of 40-60°C. Both acute and chronic forms of the disease occur, and if repeated contacts with the inciting allergens occur, the lungs may become severely damaged.

The precise immunopathogenic mechanisms responsible for the condition are not yet fully understood.

Affected individuals usually have serum precipitins to *M. faeni*, and these are thought to be implicated in the disease process by complexing with inhaled antigens and activating complement in a manner similar to that occurring in the type III (Arthus) reaction.

It is not yet known if other hypersensitivity mechanisms are involved, and as yet no satisfactory animal model has been developed. There are some indications that type IV reactions might be present but the validity and significance of the data remain to be established.

Farmer’s lung is diagnosed clinically, but laboratory findings may be helpful. Work at the Mycological Reference Laboratory has shown that glycopeptide antigens extracted from *M. faeni* are capable of detecting antibodies in the sera of a high proportion of cases of farmer’s lung.

**Leptospirosis**

L. H. TURNER (Leptospirosis Reference Laboratory (PHLS), London) Of the 18 agglutinogenic serogroups which are now included in the Interrogens complex (parasitic, pathogenic strains) of *Leptospira*, at least seven are represented in the United Kingdom. These are Icterohaemorrhagiae, Javanica, Canicola, Ballum, Autumnalis, Australs, and Hebdomadis (Sejroe).

Animals from which strains have been isolated in the UK are rats, house mice (wild, pets, laboratory stock), dogs, cattle, pigs, and various wild mammals—field mice, voles, shrews, hedgehogs.

The initial phase of leptospiiral infections is a septicemia. Many combinations of symptoms and signs can result. None of these is pathognomonic, and the clinical impression is often of viral rather than bacterial infection. Leptospirosis can cause syndromes resembling aseptic meningitis, encephalitis, other fevers with involvement of the nervous system (non-paralytic poliomyelitis, transverse myelitis); ‘influenza’ (which may be complicated by jaundice or renal involvement); enteric fever, glandular fever, atypical pneumonia, pyrexia of unknown origin, and various combinations of hepatic, renal, meningeal and haemorrhagic manifestations all of which are still referred to as Weil’s disease. In fact, Landouzy (France, 1883), Weil (Germany, 1886), and Vasilyev (Russia, 1888) independently described a *syndrome* which we now know can be caused by agents other than *Leptospira*.

Diagnosis is usually by serological tests. Of various ‘genus-specific’ screening tests, a CF test with antigen supplied by the Reference Laboratory is conveniently used—with a battery of viral antigens—in testing sera from febrile patients. Positive and suspicious sera should then be sent to the Reference Laboratory for the microscopic agglutination test, which will often indicate the agglutinogenic serogroup to which the infecting strain belongs. Such information will indicate the likely epidemiological factors in the case.

**References**


Vasilyev, N. P. (1888). (Reprint from Yezhene-bel'maya klinicheskaya Gazeta NR 22-23.)


**Psittacosis**

A. D. MACRAE (Public Health Laboratory, Nottingham) Small numbers of human infections by the psittacosis group of organisms are reported each year in the UK. In the minority of instances these have an epidemiological association with sick birds, mainly imported psittacines but also others such as pigeons and budgerigars. Most infections however come to light because of inclusion of a psittacosis group antigen in serological screening tests for lower respiratory illness or undiagnosed pyrexia.

Though psittacosis primarily affects birds, particularly parrots, spread to man from contact is obviously possible. The aetiological role of the organisms, or chlamydia as they are known, was first established by Bedson and his colleagues some 45 years ago. Despite being obligate intracellular parasites, they differ from viruses in their larger size, possession of both types of nucleic acid, a cell membrane, and the capacity to multiply by binary fission.

Many avian species may be affected though such birds, being mostly healthy carriers, do not normally excrete the organisms. When subjected to adverse conditions or stress or during breeding their resistance can be lowered so that excretion recurs. Young birds exposed to infection as fledglings either succumb to the disease or become carriers in turn.

Chlamydia have also been isolated from a variety of animals so that the possibility of human infection by transfer from domestic species such as sheep or cattle must be borne in mind.

**Q Fever**

R. J. C. HART (Public Health Laboratory, Exeter) Between 50 and 60 cases of Q fever are reported annually in England and Wales. The causative organism, *Rickettsia (Coxiella) burnetii*, is widely distributed in sheep and cattle but does not cause disease in them. It is present in very high concentration in the products of conception and is excreted in faeces and milk.

Infection in man is often symptomless. The commonest illness is pyrexia, sometimes with respiratory symptoms, but severe pneumonia is rare. Complications include myocarditis and endocarditis, which usually involves the aortic or mitral valves and has a poor prognosis.

Diagnosis is by complement fixation test to demonstrate a rising titre of antibody in paired sera. Phase 2 antigen reacts with antibody produced in acute infections but antibody to phase 1 is found in patients with endocarditis. Infection of cattle is shown by inoculating milk intraperitoneally into guinea pigs and demonstrating a serum antibody response in them.

A minority of patients require treatment, and tetracycline is the antibiotic of choice. It must be given for many months to patients suffering from endocarditis.

**Toxoplasmosis in Town and Country**

W. KWANTES (Public Health Laboratory, Swansea) There exist three forms of the *Toxoplasma* parasite, the crescent-shaped trophozoite, the encysted forms