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## Specific Infectious Pyelonephritis of Cows

C. D. Rice  
*Iowa State College*

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## SPECIFIC INFECTIOUS PYELONEPHRITIS OF COWS

C. D. RICE

In the last three years, five cases of pyelonephritis in the cow have been attended by the clinic staff. Several cases were reported from Humboldt County. This disease is reported as being quite common in European countries. The writer has had the opportunity to make bacteriological examination in two of the above mentioned cases and one case in the pig.

Case No. 4572.

On February 25, 1925 a sample of urine from the clinic department was sent to our laboratories for examination with the following history: "Dr. F. E. Walsh of the Ambulatory Clinic had two cases of this nature, one in 1923 one in 1924. We would like, if possible, to determine the etiology. This is a valuable Holstein cow eight years old. The animal is hidebound, emaciated and weak. Exhibits painful urination. The urine is turbid and blood stained."

On mounting a loopful of the non-centrifuged urine and staining, myriads of bacilli were observed with a few red cells, leucocytes, and epithelial cells. The picture resembled closely a cut in Hutyrá and Marek. On looking this cut up under the head "bacillus renalis" it was found to be labelled "clumps *Corynebacterium renalis*." On making inoculations from the urine on to Huntoon's hormone agar pure cultures were secured. On March 2, 1925 the left kidney of the cow was removed. Pure cultures were obtained from several different parts of the organ. So far as the writer was able to ascertain by culturing and staining, the organisms were true diphtheroids, staining beautifully with Albert's stain. A few weeks later Dr. Walsh had the fourth case in a two year old heifer and the kidney was removed.

Case No. 5054.

On March 5, 1926 a sample of urine came from clinic for examination. History: "Eight year old Holstein cow, emaciated. Passing blood-urine, calved about six or eight weeks ago." Smears from the urine revealed large numbers of diphtheroid organisms. Pure culture was obtained. The following day the left kidney was removed and pure cultures of a diphtheroid obtained from several parts of the kidney.

Dr. Benbrook who was making a chemical and histopathological examination of these cases called my attention to a reprint from the Journal of Experimental Medicine, November 1, 1925, by Jones and Little, describing thirteen cases from three herds of cows, purchased from the middle west and shipped to New Jersey. This is an excellent piece of research work and the first report of diseases of this nature in this country to be due to a diphtheroid organism.

#### Summary.

In the past three years the clinic at Ames has had five cases of pyelonephritis in the cow, all of which proved fatal. The disease is characterized by passing bloody urine shortly after calving.

Four of these cases were bilateral. A true diphtheroid organism was secured in pure culture from the urine and kidney of two cases. The disease is present in this country and in Iowa, and due to its fatality is of economic importance.

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DEPARTMENT OF VETERINARY PATHOLOGY,  
IOWA STATE COLLEGE, AMES, IOWA.

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### THE USE OF SODIUM TAUROCHOLATE AND CRYSTAL VIOLET IN THE ISOLATION OF *BACT. TUMEFACIENS* SM. & TOWN.

M. K. PATEL

In the isolation of *Bacterium tumefaciens* from overgrowths on apple, one of the greatest sources of contamination is that of soil organisms. These are lodged in the soil within the crevices of the convoluted gall surface. In addition the crown gall organisms frequently occur in only small numbers, making it necessary to use large amounts of tissue for isolation purposes.

It was found that the addition of small quantities of sodium taurocholate and crystal violet to the dextrose agar inhibited large numbers of the contaminants without inhibiting *Bacterium tumefaciens*.