6119

Presence of a Specific Toxic Factor in the Stools and Urines of Poliomyelitis Patients.

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The subcutaneous injection of urine specimens or saline emulsions of stools obtained from patients ill with poliomyelitis brought about the death of guinea pigs in greater numbers than similar specimens obtained from normal individuals.

Of 201 guinea pigs injected with stool suspensions from infantile paralysis patients, 66% died and 95% had reactions ranging from a simple local induration to a generalized cystic condition of the abdomen.

Of 120 guinea pigs injected with stool suspensions from normal adults, 41% died and 60% had local or generalized skin reactions.

Of 42 guinea pigs injected with stool suspensions from normal infants, 3% died and 21% had local or generalized skin reactions.

Of 145 guinea pigs injected with suspensions of stools from patients ill with diseases other than infantile paralysis, 23% died and 50% had local or generalized skin reactions.

Of 214 guinea pigs injected subcutaneously with urines from infantile paralysis patients, 14% died and 61% had local or generalized skin reactions.

Of 51 guinea pigs injected with urines from normal patients, none died and but 5% showed local reactions.

Of 139 guinea pigs injected with urines of patients with diseases other than poliomyelitis, 7% died and 12% had local reactions.

Convalescent poliomyelitis serum previously injected intraperitoneally into guinea pigs prolonged their lives, prevented massive local reactions or even protected them from death when later they were injected with stool emulsions or urine specimens from poliomyelitis patients.

That there was a specific toxic factor in the stools and urines of poliomyelitis patients was evidenced by the fact that serum taken from patients at the height of the disease (51 out of 87 cases) did not protect, while convalescent serum taken from the same patients some 21 days after the infection had started, protected guinea pigs which were later injected with stool suspensions or urine specimens obtained from poliomyelitis patients.

The acute and convalescent sera of the remaining patients were about equal in protective value. They were, however, obtained from patients admitted to the hospital usually some time after the disease had started so that the admission blood serum was actually a convalescent poliomyelitis serum specimen.

Recently, it has been shown that dialyzed concentrate of the feces might produce poliomyelitis in *Macacus cynomolgus*.[1]

6120

Increased Production of Colon Agglutinins in Blood Sera of Infantile Paralysis Patients.

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The colon bacillus was not the prime factor causing the death of guinea pigs after subcutaneous injections of standardized emulsions of stools from infantile paralysis patients. Nevertheless, this organism might have some part in the disease picture since convalescent serum protected coli injected guinea pigs to a slight extent, prolonging the lives of the animals, though not ultimately saving them. This slight protection might be due to an antibody in the serum, perhaps, an agglutinin.

Twenty-three coli-paratyphoid organisms, obtained partly from the American Type Culture Collection and partly isolated by us were used to determine the relative agglutinating capacity of serum obtained at the height of the disease and convalescent serum obtained 21 days after the onset of the disease. Both specimens were taken from the same patient.

Of 88 cases whose sera were thus tested, 55 showed marked increases in the agglutination titer of the convalescent sera as compared to the sera obtained in the acute stages. Thirty-one cases had sera of equal agglutination titer, while 2 cases had higher titers with the acute serum than with the convalescent serum.

[1] Clark, P. F., Roberts, D. J., and Preston, W. S., Jr., *J. Prev. Med.*, 1932, **6**, 47.