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Recovery of Bacillus histolyticus from human feces.

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Several months ago, Miss Peterson and I reported finding *B. histolyticus* in a sample of arable soil from California.[1] This was one of the few times that this organism has been recovered from a source other than war wounds, and, we believe, the first authentic report of its occurrence outside of the war zone, and particularly in America.

I have just recently isolated another strain of *B. histolyticus* (No. 290) from a human stool, which suggests that this highly pathogenic organism, like *B. Welchi, B. tetani,* and *B. botulinus,* at least occasionally, if not usually, makes its home in the intestinal tract of man and possibly other animals and gains access to the soil in part from fecal sources. There seems to be no previous record of the recovery of *B. histolyticus* directly from the intestinal tract or from feces.

The stool from which it came was obtained March 24, 1923, from a healthy young man, a prisoner in San Quentin prison, serving with several others in a diet squad under the direction of Dr. G. W. Clark in his study of calcium metabolism in relation to dental diseases. This squad had just completed an eight weeks' period in which the weekly menu was typified by that of this man in the last week as follows, in grams: bread 1500, granulated sugar 415, sugar candy 210, shredded wheat 335, graham crackers 700, meat 758, milk 3500, raisins 420, tomatoes 1021, salt 15, butter 415.

The stool was collected aseptically in a large sterilized evaporating dish and was kept covered in an ice chest until sampling time, which was about two hours afterwards. The stool was moderate in size, soft, but well formed. It contained in addition to *B. histolyticus,* also *Bact. coli, B. mesentericus* and *B. Welchi. Bact. coli* was recovered aerobically from an unheated suspension; the spore formers were recovered from a suspension heated

[1] Peterson, E., and Hall, I. C., PROC. SOC. EXP. BIOL. AND MED., 1923, xx, 502.

to 80° C. for 20 minutes, using deep brain medium for the initial culture and deep agar for isolation of the anaerobes.

This culture of *B. histolyticus* shows all of the usual morphologic, cultural and pathogenic characteristics of the species.[2] It also grows definitely though delicately upon the surface of meat infusion blood agar slants exposed to the air. Such aerobic cultures failed to show hemolysis as do anaerobic cultures, and the stained organisms from them were atypical fusiform rods with few spores as in our former observations. This species, though not always strictly anaerobic in the sense of refusing to grow upon the surface of solid media, evidently prefers anaerobic conditions, as shown by these facts, as well as in the greater size and number of colonies in the depths of deep agar shake cultures.

This strain is exceedingly virulent; the leg of a guinea pig injected intramuscularly with 2 cc. of a 24 hour glucose broth culture was on the following day almost completely disarticulated and denuded of flesh from the knee down in addition to an area of about 15 sq. cm. on the abdomen from which the skin had sloughed.

The finding of this species in human feces, as well as in cultivated soil, establishes evidence, albeit a slender thread, to explain its occurrence in wounds where conditions are favorable for contamination with fecally polluted soil.

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Studies on inorganic salt metabolism.

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Studies on inorganic salt metabolism in dogs and rats which have been in progress in this laboratory during the past two

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2 Hall, I. C., PROC. SOC. EXP. BIOL. AND MED., 1923, xx, 501.

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