

ELECTROLYTE COMPOSITION OF DIARRHOEAL STOOL IN CHILDREN—SOME THOUGHTS ON PROPER REPLACEMENT THERAPY.

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The composition of the "ideal" replacement fluid in acute diarrhea should be based on the composition of the stool so that whatever is lost may be replaced through infusion to keep the milieu interieur constant. There are several kinds of intravenous fluids available, for example Ringer's lactate, Darrow's 1/6th molar lactate, normal saline, etc., each having their proponents. The present report will discuss the results of electrolyte determinations on stool in cholera and other acute diarrheas and a rational intravenous therapy based on these findings. We found, for example, that pediatric stool was hypotonic, lower in sodium and higher in potassium than comparable adult stool, thus suggesting the possible need for different intravenous solutions for fluid replacement in adult and pediatric diarrheas.

DIFFERENTIAL PROGRESS OF BIOLOGICAL ACTIVITY IN THE EXCISED SMALL INTESTINE OF THE WHITE RAT.

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When the small intestine is slit and incubated in humid air at 37°C., early changes in the mucosa are consistent with continued normal biological activity. However, as incubation is continued the normal phenomena gradually pass into frankly autolytic changes, which are only too well known. The early changes include the following:

1. Contraction of villi and formation of extrusion zones. Ultimately, in the space of 90 minutes, this may reduce tall and slender villi to very low and broad plateaus, which give the mucosa a form resembling that of the mucosa in human coeliac disease and tropical sprue. It is suggested that hypertonicity of smooth muscle might contribute to the histopathology and symptomatology of these diseases.
2. Migration of lymphocytes into the epithelium continues, probably at an increased rate, for 60 minutes.
3. Mitoses in crypts continue for 30 minutes, but fail to proceed to completion, and thus an apparent increase in mitotic nuclei occurs.
4. Considerable individual variations are seen and frank autolysis of a part of the epithelium of the villi may take no more than 60 minutes.

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