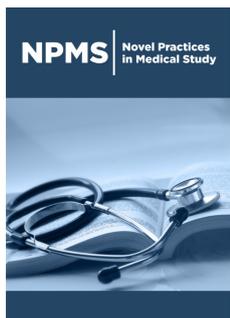


Opinion: What's New in An Old Lab Test: Immediate Early Digestion in Stool

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Opinion

I choose this topic for the inauguration because lately the increase in diseases related to the digestive tract are on the rise.

The microbiota is defined as the community of living microorganisms residing in a specific ecological niche, in this case the human intestine (colon). The microbiome is the sum of its microorganisms, genes, and metabolites. In our fecal microbiome, some 9.9 million microbial genes have been identified [1]. Pathobionts are benign endogenous microbes that have the ability, under conditions of an altered ecosystem (dysbiosis), to cause certain pathologies. Dysbiosis is the loss of balance between the cells of a human organism and the bacterial cells that inhabit it. Finally, holobiont, refers to the totality of organisms in an ecosystem, in our case, humans and the shared microbial ecosystem. Humans are, therefore, superorganisms governed, in part, by the microorganisms that we host [2].

This test has been carried out in our laboratory for many years and has now gained new interest, from the greater knowledge of the microbiota and inflammatory bowel diseases. When the digestion test is requested by the clinician, we inform him of the stool consistency, color, odor, mucus, pH, macroscopic remains, muscle fibers, starch grains, neutral fats, fatty acids, soaps, leukocytes, red blood cells etc. Three preparations are seen under the microscope: one with physiological saline, another stained with lugol, and the last with sudan. In the feces we can observe under the microscope the degree of digestion of the different immediate principles, this is of great help in the diagnosis of the different types of pathologies related to the digestion process. If we find, for example, undigested muscle fiber fragments, it may be indicative of gastric and pancreatic insufficiency or poor permanence in the colon; the presence of mucus, blood, or pus may be indicative of ulcerative colitis or bacillary dysentery.

The presence of abundant fat with undigested fibers can indicate a deficiency of the pancreas, fatty acids and soaps with well digested muscle fibers can lead to suspect biliary insufficiency or malabsorption in the small intestine, the presence of large amounts of poorly digested starch indicates accelerated transit of the colon or excess carbohydrates [3].

I select here some curious clinical cases

Case 1: The first, 69-year-old woman who presented abdominal pain, we observed the presence of abundant stomata under the microscope in the preparation with physiological saline, (they are microscopic opening of the epidermal tissue of plants, especially that of the leaves, where the exchange of gases between the plant and the outside takes place, when consulted the patient indicates that she takes many infusions, therefore these structures appear, she is told that she should reduce her intake.

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Case 2: A 1-year-old child diagnosed with an allergy to cow's milk is replaced by special infant formulas, a large amount of starch crystals is observed on microscopic observation of the stool, suggesting it contains external contamination, it is confirmed again with another sample, the same granules appear, we investigated the type of food and in the infant formula it contains corn starch corn starch, so we indicate that you should reduce your intake, adding vegetable proteins.

Case 3: 17-year-old girl diagnosed with prolidase deficiency, a rare disease, we found abundant remains of undigested muscle fibers in her stool, indicating to the clinician the possibility of pancreatic insufficiency, and we advise switching to vegetable proteins in her diet that are of easier absorption.

Case 4: A 37-year-old patient, we found macroscopic remains in his stool that were identified as remains of pineapple, diagnosed with ulcerative colitis, the patient who ingested pineapple refers

to being digestive. We suggest from the clinical laboratory to the digestive doctor that they provide special diets to these patients that alleviate their digestive symptoms, due to having a poor quality of life.

Cheap and minimally invasive tests are increasingly necessary to help presumptive diagnosis, which is why special mention of this test, so old but in recent years has become more necessary in helping to diagnose digestive tract diseases.

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