Pathologies of the Gut and Treatment During Talmudic Times

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Long before antibiotics, colonoscopies, and camera endoscopy capsules of our time, people were fascinated by the pathologies and inner workings of the gut. In ancient Egypt and Greece, the gut was seen as a host to dangerous "residues" that were presumed to be the cause of all diseases [1]. Though we now know this to be untrue, by examining the ancient perceptions of gut health and understanding their treatments, specifically ancient Jewish perceptions, we may be able to gain greater insight into the development of gastrointestinal health care and where the future of innovation is directed.

In the times of the Talmud, there were several different methods that were seemingly employed as therapeutic and diagnostic tools in assessing the gut. In the *Mishnah Shekalim* (4:2), Rabbi Natan suggests that Moshe sequestered himself in a cloud for six days to purge his body of all food and drink, so that he may be like the angels. While the context is not seemingly of medical importance, the mere mention of such a procedure implies that the practice of "colon purging" was well known to the rabbis of the Talmud. It is likely that this procedure was used as a form of treatment or prevention of disease, much like that of the ancient Egyptians and Greeks. Today, physicians caution against such a procedure, for its false claims and potential to cause serious side effects, ranging from dehydration to bowel perforation. However, the common practice of this procedure indicates that the people of that era knew that the fecal content of the intestines was critical to the development and functioning of the gut [1].

Pushing the same point, in the Talmud *Nedarim* (50b), Shmuel describes the *turmita* egg, a unique diagnostic tool that was used frequently in cases of gastrointestinal pathologies, which was tedious to prepare. The egg was shrunken using a series of hot then cold water baths until it could be swallowed whole. The residues on the egg were then examined by a doctor post excretion. Upon examination, the doctor could supposedly determine the type of medicine and treatment that the patient needed. The *turmita* egg is comparable to the diagnostic tools used today, such as analyses of stool samples or possibly gastrointestinal probes of today, like the capsule endoscopy [2].

The Pillcam is a capsule endoscopy that was invented in Israel. It is a small capsule with several cameras that, when swallowed, can capture high-quality imaging of the entirety of the intestines [2]. This capsule endoscope allows for imaging of middle portions of the intestines that colonoscopies and endoscopies cannot reach. The images are wirelessly transmitted to a receiver which can then be viewed by a doctor. This device is incredibly useful for the diagnosis of certain conditions. However, in certain cases, the use of the capsule would have to be followed up with a colonoscopy or endoscopy and simultaneous biopsy for treatment [3].

Much like today, however, the causes and treatments for certain gut pathologies remain unknown. The Talmud *Avoda Zara* (40b) mentioned that Rabbi Yehuda Hanasi suffered from a bowel disease. In Talmud *Bava Batra (*103b) there is a discussion about how the great extent of the pain he experienced was often accompanied by loud screams. Dvorjetski, in her paper on the ailments of Rabbi Yehuda Hanasi, suggests that Rabbi Yehuda likely had inflammatory bowel disease (IBD), a class of diseases associated with painful inflammation of the intestines. Much like today's patients with IBD, Rabbi Yehuda Hanasi was careful

about his diet, because he felt that it played a role in his illness. He scheduled his meals, making sure that if he ate in the day, then he would not eat at night (*Mishnah Pesachim* 9:1). He also always made sure to include cucumber, radish, and lettuce into his meals, as he believed they aided in digestion (*Avoda Zara* 11a). Rabbi Yehuda Hanasi also seemed to have trusted in certain homeopathic remedies, such as apple cider, as suggested to him by Rabbi Ishamel, son of Rabbi Jose (*Avoda Zara* 40b), to help in the temporary alleviation of his gastrological pains [4].

Despite the many advances in our understanding of the gut and the development of treatments, there is still so much that we do not know. This is particularly true of our knowledge of the gut microbiome and the role it has on the well-being and well-functioning of the gut. Today's patients with IBD often suffer a similar fate as Rabbi Yehuda Hanasi, being forced to turn to homeopathic remedies and diet changes, when modern medicine, such as anti-inflammatory medications, cannot provide significant relief to their symptoms [5]. Many scientists believe that a possible key factor in the development of this disease has to do with the microorganisms that inhabit the intestines [6]. Gaining a greater understanding of the microbiome's role in the gut, as well as in gut-related diseases, is critical for developing future treatments of gastrointestinal diseases.

By examining the past through a Talmudic lens, we can not only see how much our understanding and treatment of gastrointestinal diseases have advanced, but also what has remained the same, and where we must look to advance.

Acknowledgments

I would like to thank my parents, whose continued support allows me to pursue my interest in the sciences. I would like to thank my sister-in-law, Leah, for always helping me improve my writing skills and for being a constant source of advice and encouragement. I would like to thank Dr. Babich for his guidance and support and for being a mentor to me during my time at Stern College for Women. Lastly, I would like to thank Erica Hilsenrath-Bodoff for being my science study buddy and for always supporting me.

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