KRESSER INSTITUTE FOR FUNCTIONAL AND EVOLUTIONARY MEDICINE

Gut Treatment Protocols: Dysbiosis and Parasites, Part 4

Probiotics. Saccharomyces boulardii has activity against H. pylori. We talked about how it was effective for parasites earlier. It also has shown efficacy against H. pylori. The addition of Saccharomyces boulardii to the antimicrobial protocol significantly increases the eradication rate of H. pylori and alleviates side effects, and that has been shown in a number of studies. Other probiotics can be useful too. There are 33 clinical studies at the time of this recording looking at the effects of probiotic supplements on H. pylori colonization, and they were evaluated in a meta-analysis that concluded that there was a significantly higher pooled H. pylori eradicating effect of the people who took Saccharomyces boulardii compared to controls who just took the antimicrobial drugs. Seed daily synbiotic and Terraflora, as we discussed earlier, also have species with antimicrobial activity, so those are included in the protocol.

Broccoli sprouts are one of the best studied compounds with activity against H. pylori. They also reduce inflammation caused by H. pylori by attenuating the release of interleukin 8 in response to TNF-alpha, a potent inflammatory cytokine. Studies suggest that sulforaphane is the most likely active compound in broccoli sprouts, so you can add sulforaphane as a supplement to treatment protocols at a dose of about 300 mg per day.

Other compounds that have shown some efficacy: Several studies show licorice is as effective as bismuth in the eradication of H. pylori in patients with ulcer. Licorice is quite remarkable as an antimicrobial, actually. It is antiviral in addition to being antibacterial, in some cases. Deglycyrrhizinated licorice, which is known as DGL, is the best form here because it not only can help with eradication of H. pylori, but it also has soothing effects on the gut lining and can help with reflux symptoms. Another compound or botanical that can be helpful is mastic gum. The research here is a bit thin. It is not as good as some of these other compounds, but some studies do show a benefit.

Core protocol

Nutreceutical	Dosage
GI Synergy	1 packet BID (with breakfast and dinner)
Lauricidin	1 scoop TID with each meal
Interfase Plus	3-4 capsules BID on empty stomach
SEED Daily Sybiotic	2 capsules at bedtime
TerraFlora	One capsule with lunch

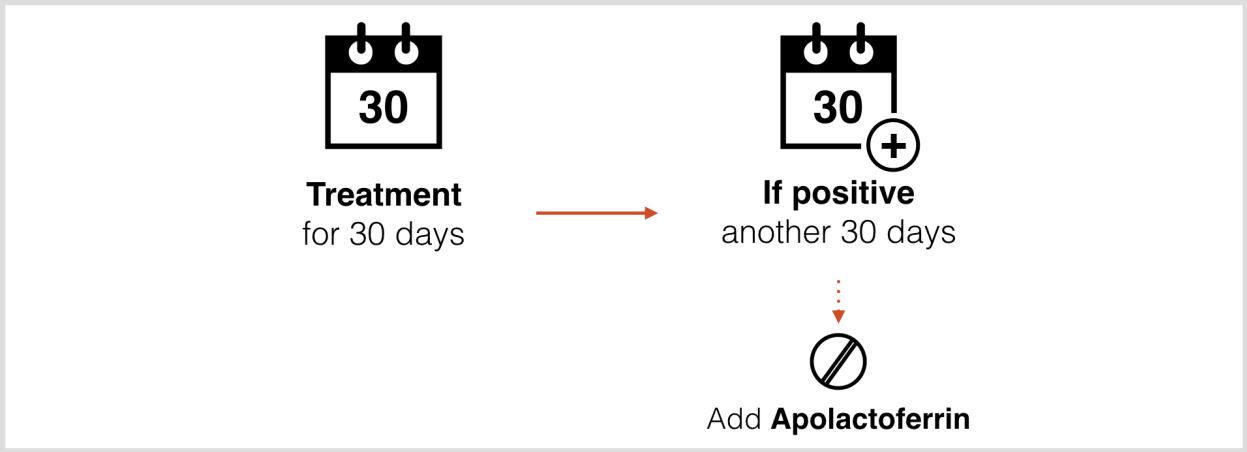
Given all of this, we use the same core antimicrobial protocol that we use for SIBO and dysbiosis and parasites for H. pylori, but we do make a few modifications.

H. Pylori: additions to core protocol

Nutreceutical/Dietary intervention	Dosage
Sulforaphane	150 mg BID with breakfast and dinner
DGL	750 mg BID empty stomach
Mastic gum	500 mg BID empty stomach
Saccharomyces boulardii	3-4 billion CFU BID at lunch and before bed
100% cranberry juice	500 mL per day
Eat cruciferous vegetables	As much as tolerated; preferably at least 2 cups/d

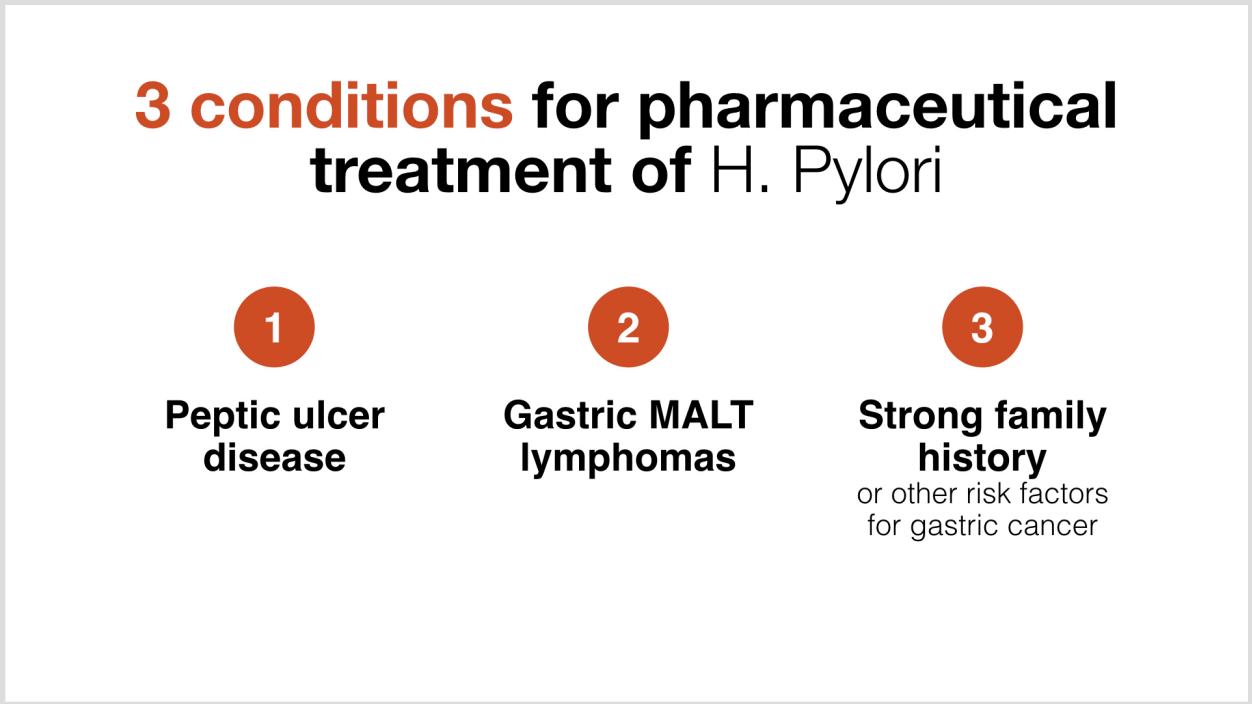
We add the agents on this slide that we just talked about, so sulforaphane 150 mg twice a day with breakfast and dinner; DGL 750 mg twice a day on an empty stomach; mastic gum 500 mg twice a day on an empty stomach; Saccharomyces boulardii; and also, we didn't talk about this yet, but 100 percent cranberry juice at a dose of half a liter a day, 500 mL, has been shown to be helpful. It reduces the adhesion of bacteria against mucosal surfaces, and it's used, as I'm sure you're aware, in treating UTI for that reason. Then, eating cruciferous vegetables because of the compounds that

they have in them, such as sulforaphane, as much as tolerated. At least two cups a day would be beneficial. There is actually a study that shows that cranberry juice and cruciferous vegetables can have a beneficial impact on H. pylori, and we'll put that in the resources section.



I suggest a treatment duration of 30 days with this protocol followed by a retest. The retest can be fecal antigen, using something like BioHealth, or it can be urea breath test from a company like Metabolic Solutions, and there's some evidence that suggests that the urea breath test is more sensitive and specific as a follow-up test for H. pylori treatment. If the results are still positive, you would treat for another 30 days, but this time add apolactoferrin at a dose of 300 mg twice a day. Apolactoferrin is a natural antibiotic found in cow's milk, and it binds iron, which H. pylori needs to thrive, and some studies suggest that probably for this reason apolactoferrin is effective against H. pylori. We're going to talk about apolactoferrin as a natural iron chelator when we talk about iron overload in the blood chemistry unit later, but it can be used for this purpose as an antimicrobial and something that sequesters iron from pathogens.

If the patient is still positive after all of that, which will happen, it's happened to us several times,



you have to decide whether you're going to go for eradication with pharmaceutical treatments. What factors go into that decision? As I said, it's still not entirely clear, but here's how I'm currently thinking about it based on the research. There are three conditions where treatment with antibiotics to go for full eradication may make sense: number one, where the patient has peptic ulcer disease; number two, where they have gastric MALT lymphomas; and number three, where they have a strong family history or other risk factors for gastric cancer.

Another potential differentiator is CagA virulence factor. Studies suggest that CagA-positive, which is cytotoxin-associated gene A, H. pylori is associated with a greater risk of cancer, cardiovascular disease, and other conditions that H. pylori is correlated with. The problem is the test is not yet widely available outside of a research setting, but if you can access it, you can use it as another factor in the decision to treat.

Another big problem is what drug treatment to do, if you choose to do a drug treatment. With conventional drug therapy, eradication rates range from 61 to 94 percent, so the upper end of that scale is pretty good. The lower end is okay, but there's an increasing trend of H. pylori treatment failure with traditional therapy containing PPIs, amoxicillin, and then either clarithromycin or metronidazole, which is the standard triple therapy in many parts of the world.

Treatment success decreases to less than 90 percent when antibiotic resistance levels exceed 15 percent, and per the CDC, 29 percent of strains of H. pylori are resistant to one, and 5 percent are resistant to two or more antibiotics. Unsuccessful treatments with success rates below 90 percent can significantly increase antibiotic resistance, which makes this a bigger challenge. This is an area of active research, and finding effective treatment regimens is still a challenge.

First-line drug treatment for H. pylori

Medication	Dosage
PPI (lansoprazole, omeprazole, pantoprazole, etc.)	Dose depends on medication used
Amoxicillin	1 g BID
Clarithromycin	500 mg BID

That said, I'll tell you what the consensus is now. The first-line treatment consists of a triple therapy using a PPI or ranitidine bismuth citrate combined with clarithromycin and amoxicillin or metronidazole for those with penicillin allergy, all given twice daily for one to two weeks. Failure rate from this treatment is anywhere between 10 to 24 percent.

Augmented drug treatment for H. pylori

Medication	Dosage
PPI	Dose depends on medication used
Amoxicillin	1 g BID
Clarithromycin	500 mg BID
Interfase Plus	3 capsules BID on empty stomach
Lauricidin	1 scoop TID with each meal
Sulforaphane	150 mg BID with breakfast and dinner
Saccharomyces boulardii	3-4 billion CFU BID at lunch and before bed
Apolactoferrin	300 mg BID on empty stomach

However, I'd suggest improving the efficacy of this treatment by adding some of the agents from the botanical nutraceutical protocol. You could add InterFase Plus for biofilm. You could add Lauricidin for biofilm and its activity as a medium-chain triglyceride and antibacterial activity. You could add sulforaphane. You could add Saccharomyces boulardii. You could add apolactoferrin, and if you add these on top of the antibiotics, I think treatment failure is very unlikely.

The second-line pharmaceutical treatment if the first-line therapy fails, and again, you'd have to think very hard about whether this is warranted based on the factors I mentioned before, would be what's called a quadruple therapy, which consists of a PPI, bismuth, metronidazole or Flagyl, and tetracycline. Tetracycline is a very broad-spectrum antibiotic and doing this protocol would be expected to have a substantial impact on the gut microbiota. Again, I would not do this without adding some of the agents from the nutraceutical botanical protocol.

Unfortunately, recurrence of H. pylori is common, which again leads us to this question of whether pharmaceutical treatment is the best option, especially if you're having to do it over and over again. One possible reason for this is transmission between family members, as with some of the parasites we've discussed and pinworms, so it may make sense to treat the partner if you see recurring H. pylori in a patient. I would definitely use the botanical protocol as a first line, as we've discussed, and if recurrence continues to happen, that's another reason to use the botanical protocol to keep the intensity of the H. pylori infection and the virulence down because using a botanical or nutraceutical protocol over the longer term is going to almost certainly be less harmful than repeated antibiotic use.

Okay, that's it for this section. In the next section, we're going to talk about more specific approaches for GERD, inflammatory bowel disease, and IBS. We'll see you then.