

2019 DDW Highlights

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Disclosure

Neither I nor my spouse have a personal financial relationship or any actual, potential or perceived conflict of interests in any manufacturer of products or services related to this course.



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Objectives

- **Learn different study designs and weaknesses of each**
- **Get updates on research abstracts presented at DDW 2019**
- **Learn flaws of research in certain abstracts**

INTRODUCTION

- **DDW (Digestive Diseases Week)** is an annual conference of GI doctors, nurses and researchers
- **DDW 2018 was held in Washington, DC from May 18 to May 21, 2019**
- **15,000+ attendees**



5+ Speakers

Research Presentations

- **Approximately 12,000 abstracts were submitted for review**
- **Over 4,400 accepted as oral or poster presentations**
- **I reviewed 1,800 for this talk with 18 undergoing further review**
- **I selected 6 to discuss**

Types of Research Studies

- Controlled Trials
- Observational studies
- Meta-analysis



Controlled Trials

- **Study population is split into two groups: control arm and treatment arm**
- **Treatment arm is exposed, control arm is not (placebo)**
- **Measure difference in outcomes**
- **Highest level of evidence**

Meta-Analysis

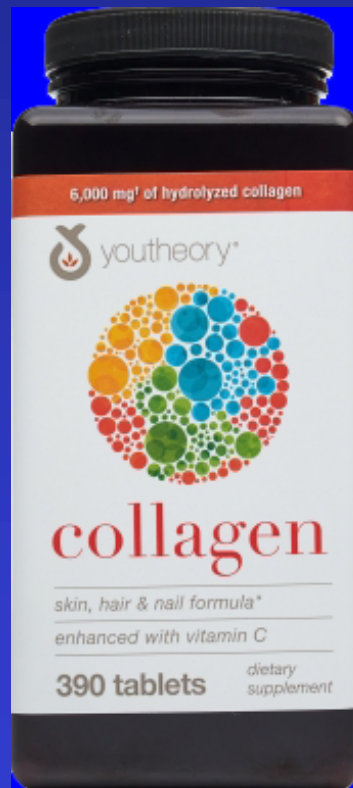
- Way of combining multiple studies to resolve conflicting results
- Obtain all studies pertaining to the question (systematic review)
- Use Math
- Perhaps multiple small studies combined will create a $p < 0.05$



Observational Studies

- Data from a population is reviewed (usually retrospectively)
- Look for risk factors associated with worse outcomes
- Risk factors may be linked to other risk factors
- Association is not causation!

Does Collagen Slow Aging?



14 Health Benefits of Collagen Supplements

- 1. Hydrolyzed collagen helps reduce wrinkles and improve skin conditions**
- 2. Hydrolyzed collagen supports the re-growth of joint tissue and can help relieve joint pain**
- 3. Collagen helps prevent bone loss (osteoporosis)**
- 4. Collagen can help reduce cellulite and prevent stretch marks**
- 5. Collagen can help you lose weight**
- 6. Detoxify your liver with a collagen broth**
- 7. Collagen helps repair leaky gut syndrome**
- 8. Collagen is an important part of healthy hair growth**
- 9. Collagen helps you grow stronger nails**
- 10. Collagen supports healthy teeth and gums**
- 11. Collagen can help balance your hormones**
- 12. Collagen could help alleviate anxiety**
- 13. Collagen promotes restful sleep**
- 14. Collagen can prevent hardening of the arteries**

<https://collagencomplete.com/benefits-collagen/>

Studies With Collagen

- **Basic science with mice**



- **Arthritis in horses**



- **Pressure ulcers in humans**



Dietary Supplementation with Specific Collagen Peptides Has a Body Mass Index-Dependent Beneficial Effect on Cellulite Morphology

Michael Schunck,¹ Vivian Zague,² Steffen Oesser,¹ and Ehrhardt Proksch³

¹CRI, Collagen Research Institute, Kiel, Germany.

²Department of Cell and Developmental Biology, Institute of Biomedical Sciences, University of São Paulo, São Paulo, Brazil.

³Department of Dermatology, Christian-Albrechts-University of Kiel, Kiel, Germany.

ABSTRACT In this double-blind, placebo-controlled clinical study, we investigated the efficacy of specific bioactive collagen peptides (BCP) on the cellulite treatment of normal and overweight women. In total, 105 women aged 24–50 years with moderate cellulite were randomized to orally receive a daily dosage of 2.5 g BCP or a placebo over 6 months. The degree of cellulite was evaluated before starting the treatment and after 3 and 6 months of intake. In addition, skin waviness, dermal density, and the length of subcutaneous borderline were assessed. BCP treatment led to a statistically significant decrease in the degree of cellulite and a reduced skin waviness on thighs ($P < 0.05$) in normal weight women. Moreover, dermal density was significantly improved ($P < 0.05$) compared to placebo. The subcutaneous borderline showed a significant shortening after BCP intake compared to the beginning of the study, indicating cellulite improvement, but the data failed to reach statistical significance compared to placebo. The efficacy of BCP treatment was also confirmed in overweight women, although the impact was less pronounced in comparison with women of normal body weight. The results of the study demonstrated that a regular ingestion of BCP over a period of 6 months led to a clear improvement of the skin appearance in women suffering from moderate cellulite. Based on the current data, it can be concluded that a long-term therapy with orally administered BCP leads to an improvement of cellulite and has a positive impact on skin health.

KEY WORDS: • bioactive collagen peptide • body mass index • cellulite • collagen hydrolysate • dermis density • dietary supplement • oral administration • randomized controlled clinical trial

INTRODUCTION

CELLULITE IS A COMPLEX PROBLEM that affects ~85% of women over the age of 20. It occurs mainly on the thighs, buttocks, and abdomen and is characterized by orange peel or cottage cheese appearance.¹

dense connective tissue structure, leading to the increased extrusion of adipose tissue lobules into the dermis.

A variety of therapies have been proposed for the cellulite treatment, including weight loss, exercises, massage, and various topical agents, as well as oral supplements and functional foods.^{2,6,7} However there are few scientifically

Study

- Double-blind, placebo-controlled study
- 105 women aged 24-50 with moderate cellulite (ages 24-50)
- Treatment arm got 2.5 gm BCP (Bioactive Collagen Peptides) x 6 mos.
- Moderate cellulite based on score of 2-3 of modified Fitzpatrick scale



Results

- Cellulite measured by:
 - Pinching the outer thigh
 - Optically measuring waviness
 - Dermis density by ultrasound
- 97 completed study – analysis on per-protocol basis

TABLE 3. THE CELLULITE SCORE IN THE OVERALL STUDY POPULATION AND NORMAL AND OVERWEIGHT WOMEN, BEFORE AND AFTER ORAL SUPPLEMENTATION WITH SPECIFIC BIOACTIVE COLLAGEN PEPTIDE IN COMPARISON WITH PLACEBO GROUP

<i>BMI</i>	<i>Treatment</i>	<i>n</i>	<i>Baseline</i>	<i>3 Months</i>	<i>6 Months</i>
Total study population	BCP	49	2.37 ± 0.4	2.17 ± 0.5 ^{*,#}	2.08 ± 0.4 ^{*,#}
	Placebo	48	2.44 ± 0.4	2.23 ± 0.5 [*]	2.19 ± 0.5 [*]
Normal (BMI <25)	BCP	24	2.19 ± 0.3	1.96 ± 0.4	1.86 ± 0.4 ^{*,#}
	Placebo	26	2.31 ± 0.4	2.07 ± 0.5 [*]	2.04 ± 0.5 [*]
Overweight (BMI >25)	BCP	25	2.54 ± 0.5	2.37 ± 0.4 ⁺	2.30 ± 0.4 ^{+,#}
	Placebo	22	2.59 ± 0.4	2.40 ± 0.6 [*]	2.40 ± 0.5 [*]

^{*}Intragroup comparison, $P < 0.05$ versus baseline.

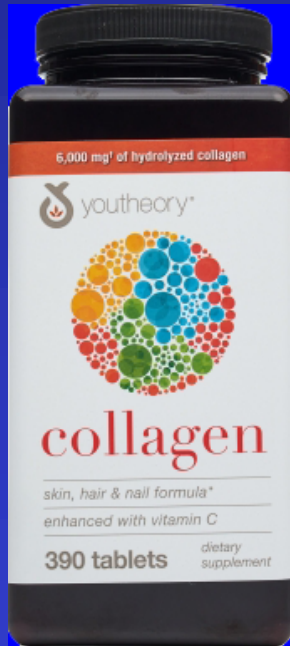
[#]Intergroup comparison, $P < 0.05$ versus placebo after 3 and 6 months treatment, mean ± SD, n = number of subjects).

Methodology

- **BCP better than placebo (BMI < 25)**
- **Good methodology – controlled, blinded**
- **Issues:**
 - **Per protocol analysis**
 - **Why did placebo get better as well?**
 - **BMI < 25 had greater effect but wasn't stratified**

Follow Up Study

- Cost-effectiveness study



\$19



\$10

DDW 2019 Highlights

- **Upper endoscopy**
- **Lower endoscopy**
- **Endoscopic Potpourri**
- **No hemoclipping of polyps,
water colonoscopy, POEMS**

Upper Endoscopy

- 1) Is EGD before bariatric surgery cost-effective?
- 2) What is the effectiveness of Hemospray in upper GI bleeding?

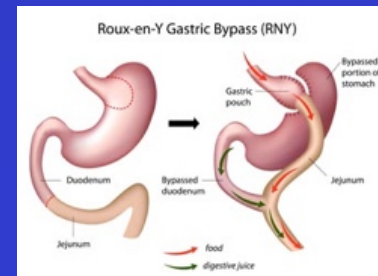
Pre-op EGD

What is the cost-effectiveness of EGD prior to bariatric surgery?

Abstract Sa1038

High Cost for Low Yield: A Systematic Review to Assess the Cost-Effectiveness of Routine Pre-Operative EGD Before Bariatric Surgery

Gretchen Evans, et al.



Pre-Op EGD

- EGD is performed routinely before bariatric surgery
- No prior studies on cost-effectiveness
- Systematic review of bariatric surgery
- Studies had to show how endoscopy changed management
- Excluded: Small studies (<10 patients), pediatric, revision surgery, East Asian studies



Results

- 32 retrospective studies found
- 13,837 patients (average age=42, 76% female, average BMI=47)
- 7.3% of EGDs changed management
- 0.7% of EGDs changed the surgery
- 0.09% found a malignancy
- Cost to find abnormality that changed management: \$22,142 (\$207,601 to change surgery)

Methodology

- **Conclusions: yield for routine pre-op EGD was low and not cost-effective**
- **Heterogeneity is always an issue in meta-analysis**
- **Controlled trial best but may need very high enrollment**
- **“Fat chance” of finding a significant abnormality**

Hemospray

What is effectiveness in treating upper GI bleeding with Hemospray?

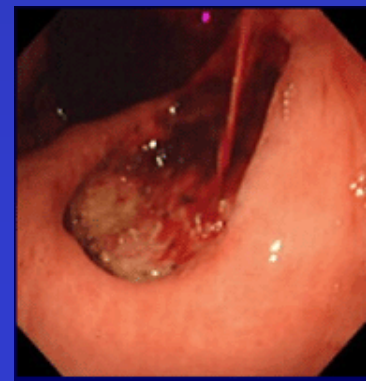
Abstract 550

Outcomes on the Use of Hemospray in Upper Gastrointestinal Bleeds Secondary to Peptic Ulcers: Prospective Multicentre International Hemospray Registry
Mohamed Hussein, et al.



Hemospray

- Hemospray (Cook Medical) is a novel hemostatic powder
- Effectiveness in bleeding peptic ulcer disease
- Prospective observational study in 13 centers in Europe
- Evaluate hemostasis, rebleeding and mortality



Hemospray

- 196 patients (63% duodenal, 22% gastric, 15% esophagus)
- Hemospray used as both initial and rescue therapy
- Based on Forrest category:
 - 1a = active bleeding (spurting)
 - 1b = active bleeding (oozing)
 - 2a = non-bleeding visible vessel
 - 2b = adherent clot



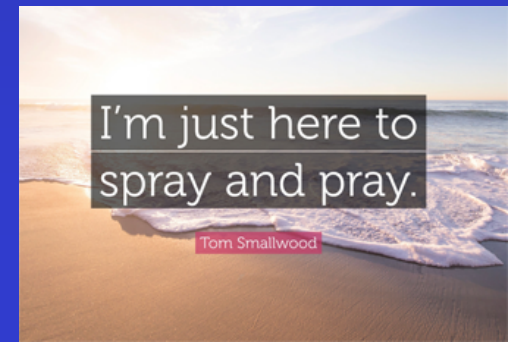
Results

	1a	1b	2a	2b
Hemostasis	84%	84%	100%	95%
Rebleeding	26%	20%	10%	22%
Mortality (7d)	19%	12%	5%	17%
Mortality (30d)	29%	22%	14%	28%

- **Hemospray was effective in bleeding peptic ulcer disease**
- **High acuity from tertiary centers**

Methodology

- Only covered upper GI bleeding from peptic ulcer (?tumor bleed)
- Both initial and rescue: for initial should compare against traditional methods
- Cost-effectiveness
- Conclusion: was effective in serious acute PUD bleeding



Lower Endoscopy

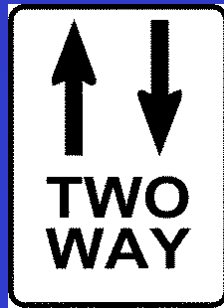
- 1) Should we look for polyps on the way in?
- 2) Is adding simethicone to the rinse water helpful?

Looking On Insertion

Does looking for polyps on insertion add to looking on withdrawal only?

Abstract 950

Adenoma Detection During Both the Insertion and Withdrawal Versus Only Withdrawal of Colonoscopy: A Prospective Randomized Controlled Trial
Chi-Liang Chen, et al.



Looking On Insertion

- Polyps seen on insertion may not be found on withdrawal (True dat!)
- Study to see if additional inspection and polypectomy increases ADR
- 421 patients (over 45) for screening / surveillance
- Randomized to inspection on insertion & withdrawal or on withdrawal only

Results

	Both	Withdrawal
ADR, %	63.7%	68.1%
Mean Adenomas per colonoscopy	1.6	1.9
Mean Adenomas per positive colonoscopy	2.5	2.7

- **No benefit seen to additional inspection on insertion**

Methodology

- **Randomized controlled trial**
- **Why didn't this work?**
- **Additional air might have increased discomfort**
- **More difficulty seeing on withdrawal**
- **Should have surveyed patient satisfaction**



Simethicone

**Does adding simethicone to colonoscopy
rinse water help?**

Abstract Sa1064

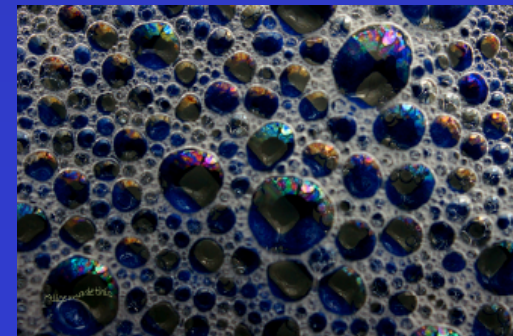
**Increased Polyp Detection Rate Utilizing
Intraprocedural Simethicone Added to Rinse
Water During Colonoscopy May be of Limited
Clinical Value, Results From a Single Center**

Jordan Sparkman, et al.



Simethicone

- **Simethicone commonly added to flush water**
- **May improve visualization**
- **Use of simethicone in scopes may lead to bacterial transmission**
- **Single-center retrospective cohort study**



Simethicone

- Colonoscopies from 2018 (simethicone eliminated) compared to 2017 (routine simethicone)
- Screening, FOBT+, anemia, personal history of polyps
- Excluded: poor prep and polyps resected but not retrieved
- Primary outcomes: Polyp detection rate (PDR) and ADR

Results

	2017	2018	P value
Patients	244	244	
Polyps	161	118	
PDR, %	66.0%	56.6%	0.03
Adenomas	118	16	
ADR, %	48.4%	47.5%	0.86

- **PDR improved but ADR did not**

Methodology

- Cohort study from different time periods
- Not sure what else changed (scopes, withdrawal times, education, etc.)
- ADR was slightly higher in simethicone group
- Need controlled trial

WHAT A
DIFFERENCE A
YEAR MAKES.

Endoscopic Potpourri

- 1) What factors make clipping an iatrogenic perforation successful?
- 2) Does ethylene oxide damage EUS scopes?



Perforation Closure

What factors make clipping an iatrogenic perforation successful?

Abstract 174

**Factors Associated With Successful Endoscopic Closure of Iatrogenic GI Tract Perforations:
A Multicenter North American Cohort**
Habeeb Salameh, et al.



Perforation Closure

- Unclear what factors are associated with successful closure
- Multi-center retrospective study
- 7 North American centers
- Primary outcomes were technical success and immediated clinical success (<14 days)



Results

- 163 closures, mean follow up 192 days
- 67 EGD, 35 colon, 17 ESD/POEM, 25 ERCP (EUS included in EGD/colon)
- Mean perforation size = 11.28 mm
- Factors for immediate clinical success:
 - Morning case
 - Fellow involvement
 - Needle decompression
 - Use of a stent
 - Antibiotic use
 - Technical success

Methodology

- “Association is not causation”
- Retrospective = reporting bias* (especially with complications)
- Association with fellow = better documentation?
- Factors identified not amenable to controlled trial
- Better to have a hypothesis than to go fishing



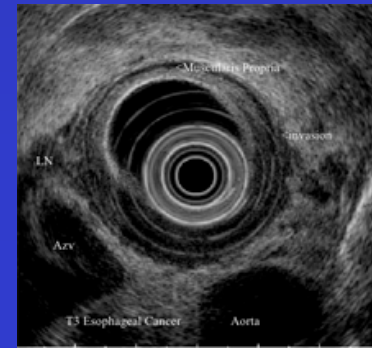
Ethylene Oxide

Does Ethylene Oxide damage the image quality of EUS scopes?

Abstract 1121

Prospective, Multi-Center 2 Year Study to Determine the Influence of High-Level Disinfection on EUS Imaging

Shounak Majumder, et al.



Ethylene Oxide

- Ethylene oxide (ETO) sterilization has become more popular with the risk of resistant organisms
- No data for ETO effects on EUS imaging over time
- Two year follow up study comparing ETO to high level disinfection (HLD)



Ethylene Oxide

- Four new scopes assigned to two groups (ETO vs. HLD+ETO)
- Average 234 cases per scope
- Compare still and video images and phantom based objective testing
- Blindly assessed at baseline and monthly for 6 months, then every 3 months



Results

- **Imaging and phantom testing was similar between the two groups**
- **Depth of penetration changed with ETO but was within 3mm (?)**
- **Conclusion: ETO did not clinically effect EUS imaging and should be used if clinically indicated**

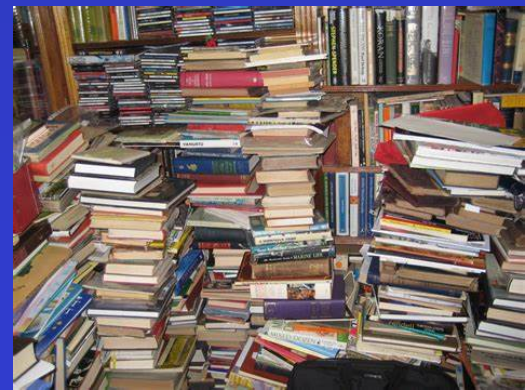
Methodology

- ETO did affect performance
- Was sample size too small to see differences in imaging?
- May not matter if ETO is not used routinely
- Remember ETO is like a full-sized RV
- Expensive, a hassle to live with but useful the few times you need it



Summary

- **DDW is an excellent venue for learning new ideas and research**
- **Preliminary data should be viewed with caution**
- **It is easier to hear this talk than go through thousands of abstracts**



Purpose of Research

“The primary purpose for research is discovering, interpreting and the development of methods and systems for the advancement of human knowledge on a wide variety of scientific matters.”

**And in other
news...stories
of the odd and
bizarre.**



Abstract 1122

The Effectiveness of Improved Used of Chewing Gum in Influencing Capsules Endoscopy Transit Time-A Prospective Randomized, Controlled Pilot Study

Yue Hu, Liang Huang, Bin Ly

- **20% of CE have incomplete SB exams**
- **“Data suggest that chewing gum throughout the entire examination, simulating sham feeding, may increase CE completion...”**
- **Increases SB transit time, improves diagnosis**
 - **Doesn't increased time=more incomplete?**
 - **“Data suggest...” = earlier studies??**
 - **Chew gum for 4 hours straight????**



Results

- Eligible for patients 16+ yrs (mean=48 yrs)
- Randomized 52 consecutive patients to gum or no gum (80! in each group)
- Only 1st hour: chew for 15m, 15m break, chew for 15m, break for 15m
- Gastric transit time was less in gum (35.3 vs. 63.4 min)
- SB transit time similar (350m vs. 380m)
- Completion rate similar (100% vs 88%)

Methodology

- **Not controlled: placebo – chewing wads of paper, grinding teeth**
- **Complications? Jaw pain, TMJ syndrome**
- **Was this sponsored by the Wrigley corporation?**
- **Interesting pilot study – gives us some juicy data to chew on**



Abstract Su1753

Does the personality Traits of Endoscopists Affect Adenoma Detection Rate During Colonoscopy? A KASID Multicenter Study

Yunho Jung, et al.

- **“The obsessive-compulsive nature of the endoscopist has been estimated to effect adenoma detection...”**
- **Measure endoscopists with the Minnesota Multitphasic Personality Inventory 2 (MMPI-2)**
- **Compare with their ADR**
- **PS: KASID = Korean Association for the study of the Intestinal Diseases**



Results

- 20 endoscopists in 13 academic centers
- Looked at traits such as:
 - Hypochondriasis
 - Psychasthenia (phobias, compulsion, anxiety)
 - Hypomania
 - Anxiety
 - Obsessiveness
 - Type A
 - Ego Strength
 - Dominance
 - Social Responsibility

Cluster C Personality Disorders

Characterized by:

- Anxious behavior
- Chronic fears
- Perfectionism
- Constant self-doubt

Includes:

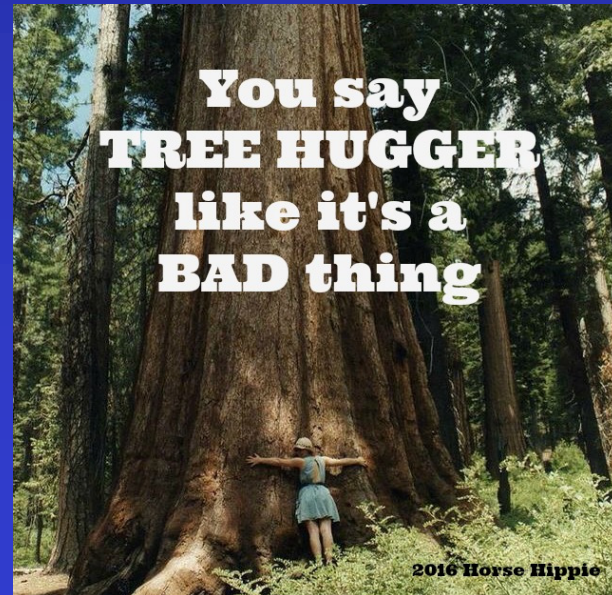
- Avoidant Personality Disorder
- Dependent Personality Disorder
- Obsessive-Compulsive Personality Disorder

Results

- **ADR strongly associated with experience and withdrawal time (well, duh)**
- **Only personality trait associated was slightly increased with Ego Strength**
- **Not statistically significant:**
 - **Higher with Type A, hypomania**
 - **Less with social responsibility**

Future Questions

- Was hypomania associated with shorter procedure times?
- For your colonoscopy, the arrogant jerk is better than the tree-hugger



Abstract Su344

Change in Halitosis Value Helicobacter Pylori Eradication: A Single Institution Prospective Analysis

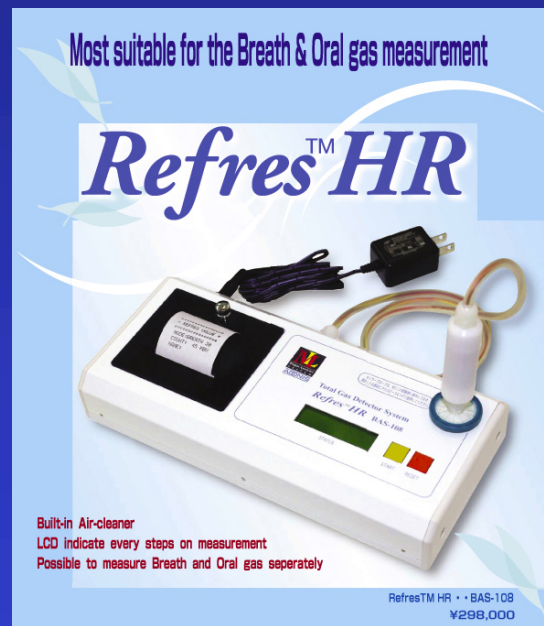
Yui Kudo, et al.

- **Anecdotal data regarding whether H. pylori improves or worsens bad breath**
- **No objective evaluations (Halitometry?)**
- **592 patients with H. pylori in the Kudo clinic attempted eradication (2 attempts)**
- **Assess halitosis at baseline and 2 months after eradication**



Halitosis

- Objective measurement with the Total Gas Detector™ System



- Only 218,000 Yen from Adonis Electronics, Osaka, Japan



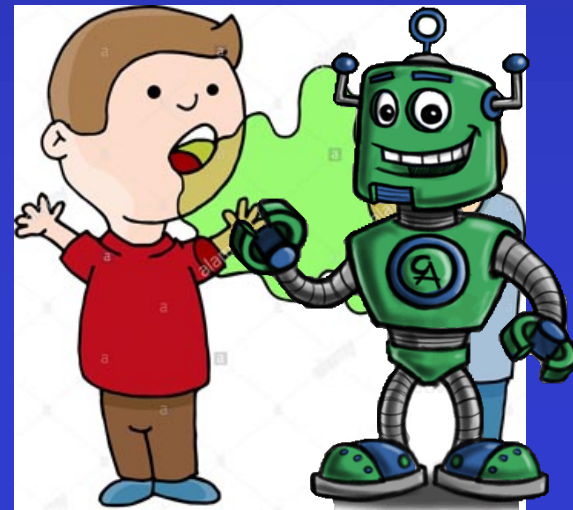
Results

- 75 patients successfully completed eradication therapy
- Scores went from 44.9 to 45.8
- 26 patients had baseline scores > 60
- Scores improved from 74.0 to 58.1
- Possibly benefit for those with really bad breath



Future studies

- What about small bowel eradication / decontamination?
- *H. pylori* eradication may improve flatulence smell?
- New more objective measurement methods for smell



Thank You 2019 Attendees!

