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Abstract

The public health hazards associated with Maillard end-products such as melanoidins and advanced lipoxidation end-products (ALEs) and advanced glycation end-products (AGEs), intermediary Maillard reaction creations, include most of the leading causes of morbidity and mortality globally. At the same time, only a few clinicians understand the intricacies linking redox biophysics and disease to humans and animals, explained here and in companion articles in simple to conceptualize terms.

Maillard abuse causes increased systemic oxidative stress (SOS: pEₜ > pH₊), an accelerant to the fatal vascular complications of type 1 diabetes. Maillard abuse-induced SOS (pEₜ > pH₊) is also linked to type 2 diabetes, thyroid disorders, polycystic ovary syndrome, low testosterone, and osteoporosis.

Many studies have shed light on exotic, intricate, and pricey markers to test extracellular and intracellular Maillard reaction-induced redox imbalance. And their corresponding influence on soluble and cell receptor signaling and the Maillard-induced redox-based diseases and deaths they cause. Inconclusive and pricey new markers for measuring extracellular and intracellular redox balance and imbalance cost thousands of US Dollars (USD) per in vivo assay. The author presents seven extracellular and intracellular redox markers costing less than 150 USD per in vivo assay, using standard laboratory tests available to medical centers worldwide.

A PubMed search revealed no studies testing colas, pizza, burgers, and wings-specific intra-day Maillard-rich food binges on TSH, TG/HDL ratio (THR), VLDL/HDL ratio (VHR), LDL/HDL ratio (LHR), and urine pH₊ extracellular redox markers, and neutrophil/lymphocyte ratio (NLR) and platelet/lymphocyte ratio (PLR) intracellular redox indicators.

The objective of this pilot single case study is to test the feasibility of replication on a much larger scale. The second objective is to analyze the potential influence or lack of impact of Maillard intermediate and end-products on oral-
intestine, corporal extracellular, and intracellular redox biophysics, soluble and cell receptor signaling, immunosuppression, inflammation, and risk for developing one or more of the leading causes of morbidity and mortality worldwide at three targeted intraday-pH+ points.

The participant met inclusion criteria and drank acidic tide-inducing Maillard-rich colas to prompt an intra-oral-intestinal and the body’s extracellular systemic oxidative stress (SOS: pE+ > pH+)-associated plasma acid-tide. And had blood drawn for CBC with differential and platelet count, comprehensive metabolic panel, lipid panel, and TSH, and provided a sample for a routine urinalysis after an at-home confirmation of extracellular acid-tide using ‘Just Fitter pH Test Strips pH 4.5 – pH 9.0.’ In a concerted attempt to reach an at-home urine pH+ strip value of 5.5, the top of the 4.5 to 5.5 urine and 7.35 to 7.38 blood systemic oxidative stress range (SOS: pE+ > pH+). Before driving to the lab to give blood and urine samples for CBC with differential, comprehensive metabolic panel, lipid panel, TSH, and routine urinalysis. A similar procedure occurred to consuming mainly alkaline-botanical pizza, peanut butter shake, stronger alkaline tide-inducing acidic bacon double cheeseburgers and twelve fried chicken wings.

The move from cola-associated urine pH+ 6 to pizza-associated pH+ 6.5 within the prime systemic energy PSE (pE+ = pH+) urine pH+ range increased oral-intestinal, extracellular, and intracellular SOS by a factor of 50. The move from pizza-associated urine pH+ 6.5 to burgers and wings-associated pH+ 7.0 within the systemic reductive stress (SRS: pE−< pH+) urine pH+ range of 6.7 to 7.7, increased oral-intestinal, extracellular, and intracellular SOS (SOS: pH− > pH+) by a massive score of 556.

This pilot study warrants reproduction on a larger scale with similarly healthy participants with elevated antioxidant tone. Such Maillard-intense trials require safe inclusionary criteria that limit initial subject sample pools to the equivalent of less than 25% of healthy females and males 8 to 80 years of age within or close to their ideal body mass indices and waist-to-height ratios.

**Keywords:** Cancer; Covid-19; Diabetes; Endocrine Disorders; Immunosuppression; Inflammation; International Culinary Medicine; Ischemic Heart; Maillard Abuse Disorder; Redox Biophysics; Stroke

**Introduction**

than 150 USD per in vivo assay, using standard laboratory tests available to medical centers worldwide.

A PubMed search revealed no studies testing colas, pizza, and burgers, and wings-specific intra-day Maillard-rich food binges on TSH [12], TG/HDL ratio (THR)[13], VLDL/HDL ratio (VHR)[11], LDL/HDL ratio (LHR)[14], and urine pH+ [14,11] extracellular redox markers, and neutrophil/lymphocyte ratio (NLR) [15] and platelet/lymphocyte ratio (PLR) [16] intracellular redox indicators.

The objective of this pilot single case study is twofold. The first objective is to test the feasibility of replication on a much larger scale. The second objective is to analyze the potential influence or lack of impact of Maillard intermediate and end-products on oral-intestine, corporal extracellular, and intracellular redox biophysics [4, 11], soluble and cell receptor signaling, immuno-suppression, inflammation, and risk for developing one or more of the leading causes of morbidity and mortality worldwide at three targeted intraday-pH+ points.

**Method**

The participant met inclusion criteria and drank acidic tide-inducing Maillard-rich colas to prompt an intra-oral-intestinal and the body’s extracellular systemic oxidative stress (SOS: pE+ > pH+)-associated plasma acidic-tide. And had blood drawn for CBC with differential and platelet count, comprehensive metabolic panel, lipid panel, and TSH, and provided a sample for a routine urinalysis after an at-home confirmation of extracellular acidic-tide using ‘Just Fitter pH Test Strips pH 4.5 – pH 9.0’ [11]’ in a concerted attempt to reach an at-home urine pH+ strip value of 5.5, the top of the 4.5 to 5.5 urine and 7.35 to 7.38 blood systemic oxidative stress range (SOS: pE+ > pH+). Before driving to the lab to give blood and urine samples for CBC with differential, comprehensive metabolic panel, lipid panel, TSH, and routine urinalysis.

The study subject then consumed mildly alkaline tide-inducing, mainly alkaline-botanical pizza and peanut butter shake rich in Maillard end-products. Also, previously at-home pH+ target tested, to the initiate prime systemic energy (PSE: pE− = pH+)-associated redox mid-tide pH+ value of 6.1, the center of the PSE (pE− = pH+ ) urine pH+ ranging from 5.6 to 6.6, reflecting the PSE (pE− = pH+ ) blood pH+ of 7.385 to 7.415. Before driving to the lab to give blood and urine samples.

Finally, the participant repeated the same procedure with stronger alkaline tide-inducing acidic bacon double cheeseburgers and twelve fried chicken wings with hot sauce attempting to secure a urine antioxidant overdose or systemic reductive stress (SRS: pE− < pH+)-type plasma alkaline-tide reflected in a urine pH+ at the center of the 6.7 to 7.7 SRS (pE− < pH+ ) urine pH+ range, 7.3, mirroring blood’s SRS (pE− < pH+ ) pH+ range of 7.42 to 7.45.

**Results**

Extracellular and intracellular intra-day redox changes and risk for developing leading manifestations of Maillard Abuse Disorder (MAD)-induced SOS (pE− < pH+) globally. Including MAD-ischemic heart phenotype, MAD-stroke phenotype, MAD-cancer phenotype, MAD-SARS/SARS-like phenotype, MAD-diabetes phenotype, and MAD-other endocrine phenotypes after three separate Maillard-rich food binges results are found in Table 1.
Discussion

The Maillard-coated and containing colas challenge produced a laboratory determined urine pH+ of 6.0, mid-range between the prime systemic energy (PSE: pE = pH+) hedges of 5.6 to 6.5. The target urine pH+ of 5.5 was missed by 0.5 because of the subject’s high antioxidant or alkaline reserve determined by at-home multi-purpose 6-way test strips using the ‘Total Alkalinity (TA) ppm’ section of the test strip section. The participant consumed more alkaline antioxidants than acidic pro-oxidant foods and beverages during the days preceding the in vivo colas assay. The subject’s at-home urine pH+ value of 5.5 increased to the laboratory determined pH+ level of 6.0 during the ten-minute drive to the laboratory because of the participant’s high body-antioxidant reserves.

The more alkaline pizza challenge—due to primarily botanical ingredients and the case in producing opiate, casomorphin, found within the cheese—created the high-end pH+ of 6.5 within the prime systemic energy (PSE: pE = pH+) urine pH+ range of 5.6 to 6.5.

The transition from the cola to pizza binge produced increases in oral-intestinal pH+ mainly due to their high botanical-Maillard reaction intermediate and end-products. While simultaneously causing a higher compensatory plasma alkaline tide to buffer the impact of acidic digestive enzymes attempting to break down the mainly animal-based melanoidins, AGEs, and ALEs coating and within the burgers and wings. The resulting TF, THR, VHR, LHR, and pH+ measures wildly progressed towards extracellular redox imbalance, and NLR and PLR indicators leaped towards intracellular redox imbalance because of increased acidic zoological Maillard-rich burgers and wings, six and three-quarter hours after consumption. The move from urine pH+ 6.5 to 7.0 within the SRS (pE < pH+) urine pH+ range of 6.7 to 7.7, increased oral-intestinal, extracellular, and intracellular SRS (pE < pH+) by a massive score of 556.

The pH+, SOS, and SRS governed systemic influence of Maillard-rich foods and beverages have a common theme reflected in the following hypotheses:

‘MAD triggers Type I, II, III, and IV hypersensitivity reactions in the following ways.’

‘Type I MAD-hypersensitivity mediates IgE-arbitrated type 2 cytokine signaling in the lungs as occurs in asthma [17], hay fever, hives [18], other food allergies, and eczema.’

‘Type II MAD-hypersensitivity governs cytotoxic hypersensitivity regarding anti-sRAGE (soluble form of the receptor for advanced glycation end-products) and RAGE implicated in inflammation, autoimmunity, and autoimmune diseases [19].’

‘Type III MAD-hypersensitivity initiates immune complex-mediated hypersensitivity such as that found in glomerulonephritis [20, 21], rheumatoid arthritis [22], systemic lupus erythematosus [23], and necrotizing vasculitis [24].’

‘Type IV MAD-hypersensitivity kicks off cell-mediated cytokines secreting hypersensitivity associated with atopic dermatitis [25] and tubercular lesions [26, 27].’

‘MAD induces a pan-corporal SOS-based autoimmune activated chronic inflammatory response by circulating cytokines entering the brain and signaling volume expansion [28], expressed as overweight and its litany of associated

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**Table 1:** Extracellular & Intracellular Intra-Day Redox Changes & Risk for Developing Top Manifestations of Maillard Abuse Disorder-induced SOS Globally (MAD-Ischemic Heart Phenotype, MAD-Stroke Phenotype, MAD-Cancer Phenotype, MAD-SARS/SARS-Like Phenotype, MAD-Diabetes Phenotype, & MAD-Other Endocrine Phenotypes) after 3-Separate Maillard-Rich Food Binges.

<table>
<thead>
<tr>
<th>Time After Binge</th>
<th>TF</th>
<th>THR</th>
<th>VHR</th>
<th>LHR</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Bacon Cheeseburgers &amp; 12 wings pH+ 4.0</td>
<td>5.9</td>
<td>735/37</td>
<td>19.9</td>
<td>126/37</td>
<td>3.5</td>
</tr>
<tr>
<td>6.75 Hours</td>
<td>-84%</td>
<td>333%</td>
<td>+298%</td>
<td>-34%</td>
<td>+8%</td>
</tr>
<tr>
<td></td>
<td>64/27</td>
<td>2.4</td>
<td>321/27</td>
<td>11.9</td>
<td></td>
</tr>
</tbody>
</table>

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lethal multiorgan diseases. Overweight is an autoimmune-based generalized inflammatory response to progression associated with the most abused substance in the world, Maillard, advanced glycation, and advanced lipoxidation end-products.’

‘Maillard abuse disorder is the leading cause of SOS (pE > pH+) and SRS (pE < pH+)-based diseases and expirations, with alcohol and nicotine abuse being the second and third leading cause of SOS (pE > pH+)-based morbidity and mortality, respectively. Rendering the world’s current epidemiology statistics and corresponding prevention and treatment plans obsolete and ineffective.’

Conclusion

This pilot study warrants reproduction on a larger scale with similarly healthy participants with elevated antioxidant tone. Such Maillard-intense trials require safe inclusionary criteria that limit initial subject sample pools to the equivalent of less than 25% of healthy females and males 8 to 80 years of age within or close to their ideal body mass indices and waist-to-height ratios.

Similarly, more than 70% of people are already Maillard-provoked, overweight, and ill. And symbiotically meet inclusionary criteria for Maillard-free culinary medicine, meditative aerobic physical exercise, and virtue-strengthening management within a residential, intensive day, evening, academic, school, daycare, corporate, government agency, or prison setting.

Conflict of interest statement

The author has no conflicts to disclose.

Dedication

This article’s dedication is to Father George, Presvytera Styliani, Stavros, and Peter.

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References

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