Case report

Endoscopy evidence; H. Pylori infection Ozonetherapy treated, Mexican cases report

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Keywords
Ozonetherapy, ozonated virgin olive oil, ozonate saline solution, Helicobacter pylori infection endoscopy.

Abstract
Helicobacter pylori (H. pylori) infection leads to chronic gastritis, peptic ulcer, gastric adenocarcinoma. Is a worldwide spread infection, is been estimated that affects nearly half of world’s population; gold standard method for diagnosed is gastric tissue biopsy obtained during endoscopy. Proton bomb inhibitor, antimicrobial treatment in a double or triple scheme are the election treatments, however is been reported high antimicrobial resistance making complicated treat H. pylori infection. We propose 90 days ozonetherapy protocol which consist of parenteral ozonated saline solution treatment and oral intake of 1 mL ozonated olive oil (600 meqO2) BIOZON ® as unique treatment scheme to eradicate H. pylori infection. In our private medical office were admitted 21 patients (10 males, 11 females) with chronical dyspeptic symptoms, endoscopic study was ordering to verify H. pylori infection and initiate ozonetherapy treatment. Patients were cited every 15 days for parenteral ozonated saline solution treatment and gave them full treatment for ozonated olive oil (600 meqO2) BIOZON ®. Our results after finished protocol presented positives results on decreased dyspeptic symptoms (18 cases), remaining just casual burping-up and the negative endoscopic results of 66% of the ozone treated patients. We performed a short study who represent only an estimation of the positive role of ozonetherapy in H. pylori infection. Nonetheless it takes further investigation and large epidemiological studies to propose these protocol as only effective H. pylori treatment...
Resumen

La infección por Helicobacter pylori (H. pylori) lleva a desarrollar, gastritis, úlcera péptica y/o adenocarcinoma gástrico. Es una infección diseminada a nivel mundial, se estima que afecta casi a la mitad de la población a nivel internacional. Para su diagnóstico la prueba estándar es la biopsia de tejido obtenida a través de endoscopia. Los tratamientos de elección son inhibidores de la bomba de protones y tratamiento antimicrobiano en doble o triple esquema; sin embargo, se ha reportado múltiples casos de resistencia antimicrobiana haciendo más complicado su tratamiento. Se propuso un protocolo de tratamiento de 90 días el cual consistió en solución salina ozonizada vía sistémica y tratamiento oral de aceite de olivo ozonizado (600 meqO2) BIOZON ® 1 mL, como único esquema de tratamiento para erradicar la infección por H. pylori. En el consultorio médico privado, fueron admitidos para el protocolo 21 pacientes (10 hombres, 11 mujeres) con síntomas crónicos de dispepsia, se ordenó endoscopía para verificar la infección por H. pylori e iniciar tratamiento con ozonoterapia. Los pacientes fueron citados cada 15 días para la aplicación de la solución salina ozonizada vía sistémica y se les dio desde un inicio el tratamiento completo por 90 días, aceite de olivo (600 meqO2) y al término del protocolo los resultados fueron positivos en la disminución de los síntomas dispépticos (18 casos), quedando como síntoma remanente eructos y resultados endoscópicos negativos para la presencia de H. pylori en el 66% de los pacientes tratados con ozonoterapia. Se realizó un pequeño estudio, que representa solo la estimación de un rol positivo de la ozonoterapia en infecciones por H. pylori. Sin embargo, se requiere más investigación y estudios epidemiológicos más grandes para poder proponer este protocolo como único tratamiento efectivo para H. pylori.

Suggestion on how to quote this paper:
Introduction

Helicobacter pylori (H. pylori) is gram-negative bacterium, colonizes human stomach, leading chronic gastritis, peptic ulcer, gastric adenocarcinoma. Is a worldwide spread infection, is been estimated that affects nearly half of world’s population. Developing countries acquiring a higher prevalence almost 90 %. Is a prevailing male gender infection, 65 % males suffer; nevertheless, prevalence of females is just either less than males (62.7 %), most common rate exposition is 14 to 29 age. Is been identify a direct Infection route, oral-oral, fecal-oral. Nowadays it could be diagnosed by several methods, although gold standard method is gastric tissue biopsy obtained by endoscopy. Election treatments include proton bomb inhibitor, antimicrobial treatment in a double or triple scheme (penicillin amine, macrolide, polyketide, imidazole’s), however is been reported high antimicrobe resistance making complicated treat H. pylori infection. Proposing new treatment regimens appears to be a priority. Ozonetherapy has provide a quiet great difference in symptoms remission of gastritis induce by H. pylori due its anti-inflammatory and antibacterial effect.

Our goal group is to propose as unique treatment scheme ozonetherapy (parenteral ozonated saline solution and ozonated extra virgin olive oil) for eradicate H. pylori infection, decreasing ROS levels, increasing levels of antioxidant enzymes and eradicating bacterial infection by antioxidant properties due parenteral treatment strengthening by the intake of ozonated extra virgin olive oil and antibacterial properties which both confer.

Ethics

Patients were treated with Dr. Nalleli Weber Chuliá (Ozonetherapy international certified specialist) medical group at private medical office. The cases presented in this article were informed in a precise manner of the treatment to be performed and were informed of the use of their data for the publication of this article, respecting the agreements signed in the Helsinki act. There is no conflict of interest for the use of the data presented for the publication of this article. Informed consent is signed prior to completion of treatment and publication of the work.
Cases report

INCLUSION CRITERIA
Female or male among 21-65 years old, with no early H. pylori antibiotic treatment or during the ozonetherapy protocol treatment.

EXCLUSION CRITERIA
Female or male under 21 years old, with pregnancy or in breastfeeding period.

CASES
Were admitted 21 patients (10 males, 11 females) with chronical dyspeptic symptoms, burping, nauseas, abdominal bloating. Endoscopic study was ordering to identify if symptoms correspond to H. pylori infection and initiate ozonetherapy treatment. Endoscopic findings showed 80% of males and 54% of were positive for H. pylori infection (Table 1).

TABLE 1: Endoscopically findings of 21 patients with chronical dyspeptic symptoms.

<table>
<thead>
<tr>
<th>ENDOSCOPICAL FINDINGS</th>
<th>PRESENCE</th>
<th>NO PRESENCE</th>
<th>TOTAL, OF CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>GASTROPATHY</td>
<td>11</td>
<td>2</td>
<td>POSITIVE H. pylori</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>1</td>
<td>NEGATIVE H. pylori</td>
</tr>
<tr>
<td>GASTRIC ULCER</td>
<td>1</td>
<td>2</td>
<td>POSITIVE H. pylori</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>18</td>
<td>NEGATIVE H. pylori</td>
</tr>
<tr>
<td>TOTAL OF CASES</td>
<td>21</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Patients were treated with 90 days of ozonotherapy protocol treatment proposed by Ozonetherapy Madrid Statement,\(^9\) which include parenteral ozonated saline solution and ozonated virgin olive oil.\(^1^3\)

Patients were cited every 15 days for symptoms control and parenteral ozonated saline solution (200 mL continuous flux, 2 µg/kg/10 min)\(^1^3\) treatment; and for 90 days non-suspended oral intake of 1 mL ozonated virgin olive oil (600 meqO2) 20 minutes before meals.

Worth noting that we include all patients in protocol (positive or negative H. pylori infection) in order to diminished dyspeptic symptoms.

After 90 days of treatment we order to previous positive H. pylory infection patients perform control endoscopy to discard infection, in which we observed encouraging results; in the endoscopic findings we realize that 90% of treated males and 72% of treated females results with no presence of H. pylory infection (Table 2).

<table>
<thead>
<tr>
<th>ENDOSCOPICAL FINDINGS</th>
<th>WITH OZONOTHERAPY TREATMENT* *</th>
<th></th>
<th>TOTAL OF CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PRESENCE H. pylori</td>
<td>NO PRESENCE H. pylori</td>
<td></td>
</tr>
<tr>
<td>MALE</td>
<td>1</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>FEMALE</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>TOTAL OF CASES</td>
<td>3</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

To the total of 21 patients which present dyspeptic symptoms after applying ozonetherapy protocol by clinical examination we observed an 85% of clinical improvement (symptoms decreased) in equal manner at both genders; remaining only occasionally burping.
Discussion:

Despite all the protective barrier of gastrointestinal tract (GI), produces in a great manner reactive oxygen species (ROS) induced by all ingested materials and pathogens cause inflammation; activating polymorphonuclear neutrophils (PMNs), macrophages and inflammatory cytokines that contribute further to ROS formation. Most of inflammatory and malignant GI diseases as inflammatory bowel disease, ulcers, cancer arise part from ROS and infections^{10}.

H. pylori infection is known as risk factor for gastric cancer, entails ROS production (chemotactic activity for neutrophils or lipidperoxidation).^{11} Either by food intake or H. pylori infection ROS production are known as one of the most toxic factors for gastric injury.^{12}

The ozonetherapy works as bactericide or decreasing ROS levels. Bactericide properties helps on H. pylori infection eradication;^{13} decreasing ROS production (catalase (CAT) and myeloperoxidase (MPO)) and increased protective ROS enzymes as superoxide-dismutase, total glutathione, these mechanisms lead to shortens healing acute gastric ulcer, as was observed in experimental rats models^{14} were ulcer diameter was decreased and the ROS production. In our work, we have observed of 21 patients treated 90 days with parenteral ozonetherapy and ozonated virgin olive oil, 18 cases decreased dyspeptic symptom symptomatology, remaining just casual burping-up, these results could response to low gastric ROS levels and decreasing gastric inflammation.

Villadongia Reyes et al. 2012 observed in patients with gastric ulcer H. pylori diagnosed treated with ozonetherapy a considerable recovering in gastric ulcer symptomatology and observed eradication of H. pylori infection corroborated by endoscopy^{15}. In our case 14 cases of 21 patients diagnosed H. pilory positive, after our 90 days protocol treatment present by endoscopy a negative result for the infection; 66% of the treated patients presents a negative endoscopic result could lead us to think in the bactericide ozonetherapy properties^{16}, our results brace the clinical and laboratory findings on H. pilory diagnosed patients were their gastric symptoms and laboratory findings results abolished and negative after Ozolife softgels® treatment. Some other ozonetherapy working groups observed a ceasing of gastric and ulcer symptoms and eradication of H. pilory after treatment sustaining our clinical findings^{17,18}.

Nevertheless, the results obtain it would be necessary to perform larger clinical studies to have more statistical basis and sustain the clinical findings.
Conclusions

A short study as we performed shows us only an estimation of the positive role of ozonotherapy in H. pylori infection. We conclude that our protocol proposed was effective in dyspeptic clinical improvement and eradication of H. pylori infection. Nonetheless it takes further investigation and large epidemiological studies to propose these protocol as only effective H. pylori treatment.
BIBLIOGRAPHY

15. Carmen Villadoniga Reyes; Norge M Larramendi Céspedes; Lesbel Morales Jiménez; Aracelis Reyes Castillo. Ozone therapy as an alternative treatment in the patients with duodenal ulcer and positive helicobacter pylori. 16, (2012).

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GRAPHIC 1: CLINICAL FINDINGS AFTER 90 DAYS OF OZONOTHERAPY TREATMENT IN THE 21 PATIENTS WITH DYSEPTIC SYMPTOMS.