Evaluation of psoriasis treatment with esomeprazole – a pilot study

Mauro BAFUTTO¹, Enio Chaves OLIVEIRA² and Schlioma ZATERKA³

ABSTRACT – Background – Psoriasis is an inflammatory skin disease that affects 1%-3% of Caucasian populations and may be persistent, disfiguring and stigmatising. Proton pump inhibitors (PPI) are potent blockers of gastric acid secretion. They are widely regarded as the agents of choice for the treatment of acid-peptic disorders. In addition to anti-secretory effects PPI have been found to have anti-oxidant properties and direct effects on neutrophils, monocytes, endothelial, and epithelial cells that might prevent inflammation. Objective – This study evaluated the treatment of psoriasis with esomeprazole. Methods – Ten patients were selected and psoriasis was evaluated according to Psoriasis Area and Severity Index (PASI). Exclusion criteria included concomitant use of any treatment for Psoriasis, organic diseases, use of other PPI than esomeprazole. Patients were medicated with esomeprazole 40 mg B.I.D. for 90 days. At the 90th day the patients were evaluated according PASI score. Results – Statistically significant results were seen when compared PASI before and at 90th day of treatment (P=0.0002). Conclusion – The use of esomeprazole for psoriasis resulted in excellent clinical results with a significant reduction of PASI score.

INTRODUCTION

Psoriasis is a chronic inflammatory disease that affects approximately 3% of the world’s population, genetic based and immunomediated⁶. It is a systemic disease characterized by skin lesions such as scaly patches, papules, and plaques, which usually itch, in areas of constant trauma to the skin such as elbows, knees, pretibial, scalp and sacral region⁷. Plaques presence combined with psychogenic distress can reduce the quality of life⁷. Psoriasis is a stigmatizing dermatosis, in which patients suffer from discrimination, self-esteem issues, social isolation and rejection⁸. This dermatosis is associated with genetic predisposition, but the transmission does not follow Mendelian standard. The Inheritance mode is multifactorial⁹ and environmental, geographic and ethnic aspects can interfere in its incidence². Psychological, physical and surgical stress are well known triggering aggravating factor⁹. Psoriasis is a chronic inflammation progressing to plaques formation and other skin lesions mainly mediated by TH1 and TH17 cells and lymphokines that are responsible for changing the keratinocytes, vascular network and own lymphocytes. Adhesion molecules expression in endothelial cells favors lymphocytes diapedesis with consequent greater recruitment of these cells. On the other hand there is the clonal proliferation and activation of lymphocytes and increased proliferation and delayed maturation of keratinocytes⁷. Disease severity determines the therapeutic approach⁸. The most accepted treatments for psoriasis have been developed empirically or discovered by chance⁸. In patients with moderate to severe psoriasis, phototherapy or systemic immunomodulator medications, or both should be considered⁸.

Proton pump inhibitors (PPI) are used in the treatment of peptic disease because so far are the most potent known inhibitor of acid secretion of the stomach. In addition to this effect, they also have anti-inflammatory and antioxidant properties. Due to personal observations of improvement of psoriasis in patients with gastroesophageal reflux disease treated with PPI we decided to evaluate the use of esomeprazole magnesium in a series of cases with psoriasis.

METHODS

This study was approved by the Research Ethical Committee of Hospital Geral de Goiânia (CEPHGG: 756/14), and was done according to Helsinki Declaration. All patients gave their consent to participate. Adult patients (18 years or older) with psoriasis were selected. Exclusion criteria included concomitant use of any treatment for psoriasis, organic diseases, use of other PPI than esomeprazole. 10 patients (6 male and 4 female, mean age =47 year) were selected and psoriasis was evaluated by Psoriasis Area and Severity Index (PASI) (FIGURE 1). Patients were medicated with esomeprazole 40 mg B.I.D. for 90 days. At the 90th day patients were again evaluated by PASI. Paired t test was used for statistical analysis.

Declared conflict of interest of all authors: none
Disclosure of funding: no funding received

¹ Universidade Federal de Goiás, Faculdade de Medicina, Disciplina de Gastroenterologia, Instituto Goiano de Gastroenterologia, Goiânia, GO, Brasil. ² Universidade Federal de Goiás, Faculdade de Medicina, Departamento de Cirurgia, Goiânia, GO, Brasil. ³ Universidade de Campinas (UNICAMP), Faculdade de Medicina, Disciplina de Gastroenterologia, Campinas, SP, Brasil. Corresponding author: Mauro Bafutto. E-mail: maurobafutto@yahoo.com.br

Received 3/2/2019
Accepted 18/7/2019

Arq Gastroenterol • 2019. v. 56 n° 3 jul/set • 261
RESULTS

Clinical data are summarized in TABLE 1. Statistically significant results were seen when PASI before and at 90th day of treatment were compared: (mean ± SD X mean ± SD) (5.52±2.93 X 0.89±0.74); \( P=0.0002 \). (FIGURE 2) At 90th day of treatment most of the patients did not show erythema, induration or scaling of plaques. Fall in the PASI scale was >75% (FIGURE 3).

TABLE 1. Clinical data and Psoriasis Area and Severity Index (PASI).

<table>
<thead>
<tr>
<th>Patients</th>
<th>Sex</th>
<th>Age (years)</th>
<th>Pre treatment</th>
<th>Post treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M</td>
<td>63</td>
<td>9.9</td>
<td>0.2</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>28</td>
<td>2.8</td>
<td>0.2</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>60</td>
<td>8.1</td>
<td>0.4</td>
</tr>
<tr>
<td>4</td>
<td>F</td>
<td>68</td>
<td>2.6</td>
<td>0.4</td>
</tr>
<tr>
<td>5</td>
<td>F</td>
<td>52</td>
<td>3.6</td>
<td>1.8</td>
</tr>
<tr>
<td>6</td>
<td>M</td>
<td>64</td>
<td>9.2</td>
<td>1.0</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>39</td>
<td>3.4</td>
<td>1.4</td>
</tr>
<tr>
<td>8</td>
<td>F</td>
<td>44</td>
<td>2.7</td>
<td>1.4</td>
</tr>
<tr>
<td>9</td>
<td>F</td>
<td>61</td>
<td>6.3</td>
<td>1.1</td>
</tr>
<tr>
<td>10</td>
<td>M</td>
<td>42</td>
<td>6.6</td>
<td>1.0</td>
</tr>
</tbody>
</table>

FIGURE 1. The PASI index calculation: It combines the severity (Erythema, Induration and Desquamation) and percentage of affected area.

FIGURE 2. Pre treatment and a 90th day treatment PASI with esomeprazol 40 mg B.I.D.


DISCUSSION

Patients with psoriasis may be treated with esomeprazole with good improvement of their affected skin appearance. To the best of our knowledge this is the first report addressing this relation between proton pump inhibitor and skin disease.

The causes of psoriasis are not fully understood. It is generally considered a genetic disease, thought to be triggered or influenced by environmental factors. It is not only a disease of the skin involving others organ systems\(^1,3,6,7,10\).

Inflammation mediators are produced in different organs and tissues of patients with psoriasis. In the pathogenesis of psoriasis TH1 and TH17 lymphocytes are mainly involved in the inflammatory process that leads to formation of plaques, especially the cytokines Interleukin 2 (IL-2), Interferon gamma (INF-\(\gamma\)) and tumor necrosis factor alpha (TNF-\(\alpha\)). These lymphokines are responsible for changing the keratinocytes, vascular network and own lymphocytes themselves. Adhesion expression molecules of endothelial cells favor diapedesis of lymphocytes resulting in a greater recruitment of these cells. On the other hand there is the clonal proliferation and activation of lymphocytes and increased proliferation and delayed maturation of keratinocytes\(^7\).

Proton pump inhibitors are potent inhibitors of gastric acid secretion. They are widely regarded as the agents of choice for the treatment of acid-peptic disorders. In addition to anti-secretory
effects, however, PPI have been found to have anti-oxidant properties and direct effects on neutrophils, monocytes, endothelial, and epithelial cells that might prevent inflammation. Also PPI inhibit the expression of intercellular adhesion molecule-1 (ICAM-1) and vascular cell adhesion molecule-1 (VCAM-1) as well as endothelial-dependent neutrophil adhesion1(12).

Although different treatments schedules can help to control psoriasis symptoms, there is not yet a known treatment that cures the disease. Treatment depends on the severity of the disease, ranging from topic steroids to phototherapy, metotrexate, acicretin, ciclosporin or biologics1(1,3,8,9).

In this pilot study including a small number of patients1(10), in all of them we observed a significant improvement of the skin lesions using an oral, safe and well known medication.

CONCLUSION

Esomeprazole showed to be an excellent option of treatment for patients with psoriasis. These preliminary results need further larger randomized controlled studies.

Authors’ contribution


Orcid

Mauro Bafutto. Orcid: 0000-0001-5585-3957.
Enio Chaves Oliveira. Orcid: 0000-0002-3502-7532.
Schlioma Zaterka. Orcid: 0000-0002-2260-9146.

REFERENCES