A Systematic Review of Atrophic Vaginitis Treatment, Duration of Therapy, and Healthcare Costs

Sanjeev Balu, PhD; Ashish V. Joshi, MS, PhD; David Cobden, MSc, MPH; Won Chan Lee, PhD; Chris L. Pashos, PhD

1HERQuLES, Abt Associates Inc., Bethesda, MD, USA; 2Novo Nordisk Inc., Princeton, NJ, USA

Abstract

OBJECTIVES: A systematic literature review of the prevalence of atrophic vaginitis, treatments involved, the therapy duration, and associated healthcare costs was undertaken to identify studies with clinical and economic relevance and gaps in literature.

METHODS: A systematic literature search using an exhaustive list of relevant search terms (1990-2004) was performed to identify articles with qualitative and quantitative data on atrophic vaginitis treatment duration, and economic impact of treatment duration. Electronic Medline® and PubMed® searches along with manual review of bibliographies were conducted in different phases for article retrieval.

RESULTS: Out of 35 retrieved studies, 6 were on epidemiology, 14 on treatment patterns, 8 on treatment duration, and 7 studies showed comparisons between vaginal tablets and other vaginal preparations. Overall, studies examining prevalence showed that atrophic vaginitis was commonly occurring among postmenopausal women (10-40%), and affecting as many as 15% of pre-menopausal women and 10-25% of women on systemic hormone therapy. Diagnosis of this condition was low with less than 25% discussing the condition with their healthcare providers and only 20-25% seeking medical attention. Treatment duration was found to be in the range of 2-12 months (weighted average of 4.1 months). Studies on long-term effects and efficacy of treatment are lacking. Vaginal tablets were preferred over vaginal creams due to convenience and ease of administration.

CONCLUSIONS: No data exist that mirror treatment duration in a “real-world” setting. There is a complete lack of studies correlating treatment duration with overall healthcare costs both at an individual and national level. Health economic studies examining resource utilization patterns, cost drivers and economic burden of this condition on individuals and society at large were not found. Future research needs to examine relationships between treatment duration, choice of medication, adherence, incidence of adverse events, and resource use and costs.

Introduction

• Vaginitis is an inflammation of the vagina that can cause discharge, itching, or pain. The most common types of vaginitis are bacterial vaginitis, yeast infections, trichomoniasis, and atrophic vaginitis (AV).1
• AV, also known as urogenital atrophy, is inflammation of the vagina due to thinning and shrinking tissues and decreased lubrication of the vaginal walls caused by a lack of estrogen hormone.2
• Successful management of AV depends, in part, on patient adherence to therapy.
• Better adherence is associated with symptom alleviation and improved patient quality of life.
• Little is known about the extent to which “real-world” patients with AV adhere to current available treatment regimens.

OBJECTIVES

1) To describe levels of adherence and their relationship with treatment duration with healthcare resource utilization and associated costs
2) To synthesize measurements of treatment duration observed in clinical trials
3) To identify adherence-related issues and directions for future research

KEY FINDINGS

• Studies have shown that AV is a common problem occurring in postmenopausal women.1 More specifically, AV can occur in 10%-40% of postmenopausal women, 15%-25% pre-menopausal women, and 10%-25% of women on systemic hormone therapy.3
• Patients with AV tend to be under-diagnosed. Less than 25% discuss the condition with their healthcare providers or try to seek medical care.2
• Hormone replacement therapy (HRT) is the most common treatment for AV since decreased estrogen level is a major risk factor for this condition.4
• Vaginal estrogen preparations have been shown to be more effective and easier to use than systemic estrogen preparations.5
• Advantages of locally administered estrogen preparations over systemic preparations include: 1) convenience and avoidance of systemic adverse effects; 2) prevention of hepatic metabolism and increased response of vaginal tissues to locally applied estrogen; 3) rapid and efficient absorption into the systemic circulation through vaginal preparations.
• The overall duration of treatment for atrophic vaginitis ranges from 2 to 12 months (weighted average of 4.1 months).5-7
• Clinical trials have evaluated safety and efficacy outcomes, including cytological changes and changes in pH.8
• The major side effect of HRT is increased systemic estrogen concentrations. Some of the above clinical trials showed that vaginal estrogen preparations, especially the low-dose vaginal tablets, resulted in low absorption of estrogen without the systemic effects often associated with HRT.10,11 Also, vaginal tablets were found to be a better alternative to other local estrogen preparations due to higher safety and better compliance.9
• However, no studies were identified that quantify levels of adherence (i.e., treatment duration and treatment intensity) to current treatment regimens in a “real world” setting.
• Health economic studies examining resource utilization patterns, cost drivers and economic burden of this condition on individuals and society at large were not found. Studies on long-term safety and efficacy of AV treatment are also absent.

Methods

SEARCH RESULTS

• Of 235 possible publications identified electronically, 27 were deemed appropriate for analysis. The distribution of these clinical trials is shown in Figure 1.
• A manual review of bibliographies yielded 8 more unique articles deemed appropriate for analysis.
• Overall, 35 relevant studies were identified and analyzed in the literature review:
  • Of these 35 studies, 6 (17%) were epidemiological, 22 (63%) were on treatment patterns or treatment duration, and 7 studies (20%) compared vaginal tablets and other treatment regimens.

Figure 1: Distribution of Retrieved Articles Based on Study Methods

Clinical Trials 43%
Retrospective Studies 23%
Reviews 34%

Figure 1: Distribution of Retrieved Articles Based on Study Methods

References


Table 1: Duration of Hormonal Therapy

<table>
<thead>
<tr>
<th>Study</th>
<th>Treatment Duration</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akrivis Ch, et al. 2003</td>
<td>24 weeks</td>
<td>Relief of vaginal symptoms</td>
</tr>
<tr>
<td>Marx P, et al. 2004</td>
<td>12 weeks</td>
<td>Improved vaginal symptoms</td>
</tr>
<tr>
<td>Palacios S, et al. 2005</td>
<td>8 weeks</td>
<td>Improved vaginal symptoms</td>
</tr>
</tbody>
</table>

Table: Duration of Hormonal Therapy

<table>
<thead>
<tr>
<th>Study</th>
<th>Treatment Duration</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akrivis Ch, et al. 2003</td>
<td>24 weeks</td>
<td>Relief of vaginal symptoms</td>
</tr>
<tr>
<td>Marx P, et al. 2004</td>
<td>12 weeks</td>
<td>Improved vaginal symptoms</td>
</tr>
<tr>
<td>Palacios S, et al. 2005</td>
<td>8 weeks</td>
<td>Improved vaginal symptoms</td>
</tr>
</tbody>
</table>

Conclusions

• AV is typically under-diagnosed and those diagnosed with AV tend to be under-titrated.1,12,13
• Economic/outcome studies of patients with AV are lacking in the literature, and no studies pertaining to medication adherence were found.
• Future studies need to examine the associations between treatment duration, medication adherence, and economic outcomes.

Figure 1: Distribution of Retrieved Articles Based on Study Methods

Clinical Trials 43%
Retrospective Studies 23%
Reviews 34%