

Vulvar lichen sclerosis: efficacy of photodynamic therapy under conscious sedation with inhaled 50% nitrous oxide and oxygen mixture

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INTRODUCTION

- Lichen sclerosus (LS) is a chronic, autoimmune, inflammatory skin disease of uncertain aetiology
- Vulvar lichen sclerosus is associated with severe discomfort and morbidity
- When unresponsive to medical therapies, photodynamic therapy (PDT) has been described as a potential alternative treatment with symptomatic benefit
 - However, pain is still a major limitation to this technique, and an important cause of treatment discontinuation
 - Pain control strategies during PDT have been studied, but none has been determined as completely effective

CASE REPORT

- ♀, 75 years-old
- Vulvar lichen sclerosus
 - 15 years of evolution
 - Highly symptomatic
 - Persistent pain, burning, pruritus, and severe dysuria



- Irresponsive to treatment with clobetasol propionate 0.05% ointment + amitriptylin 10 mg/day for 12 months



**PHOTODYNAMIC THERAPY
with methyl aminolevulinate**



Figure 1. A shiny, ivory, smooth-surfaced plaque surrounding the vulva, with important atrophy causing labial and clitoris resorption, and narrowing of the introitus.

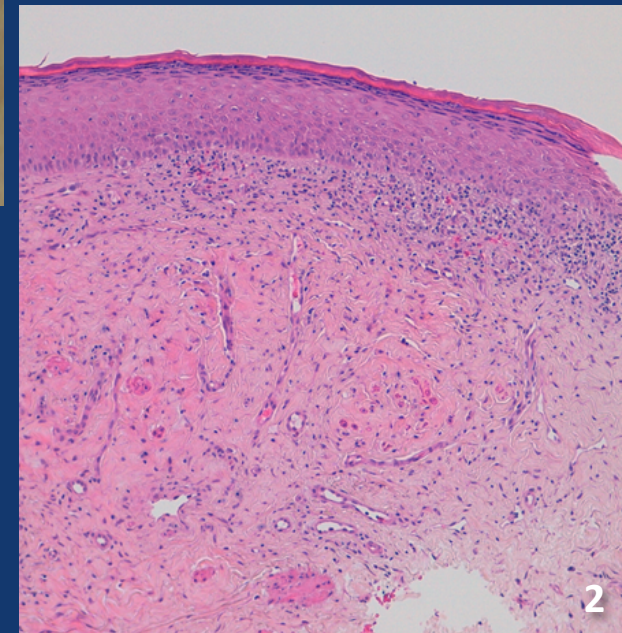
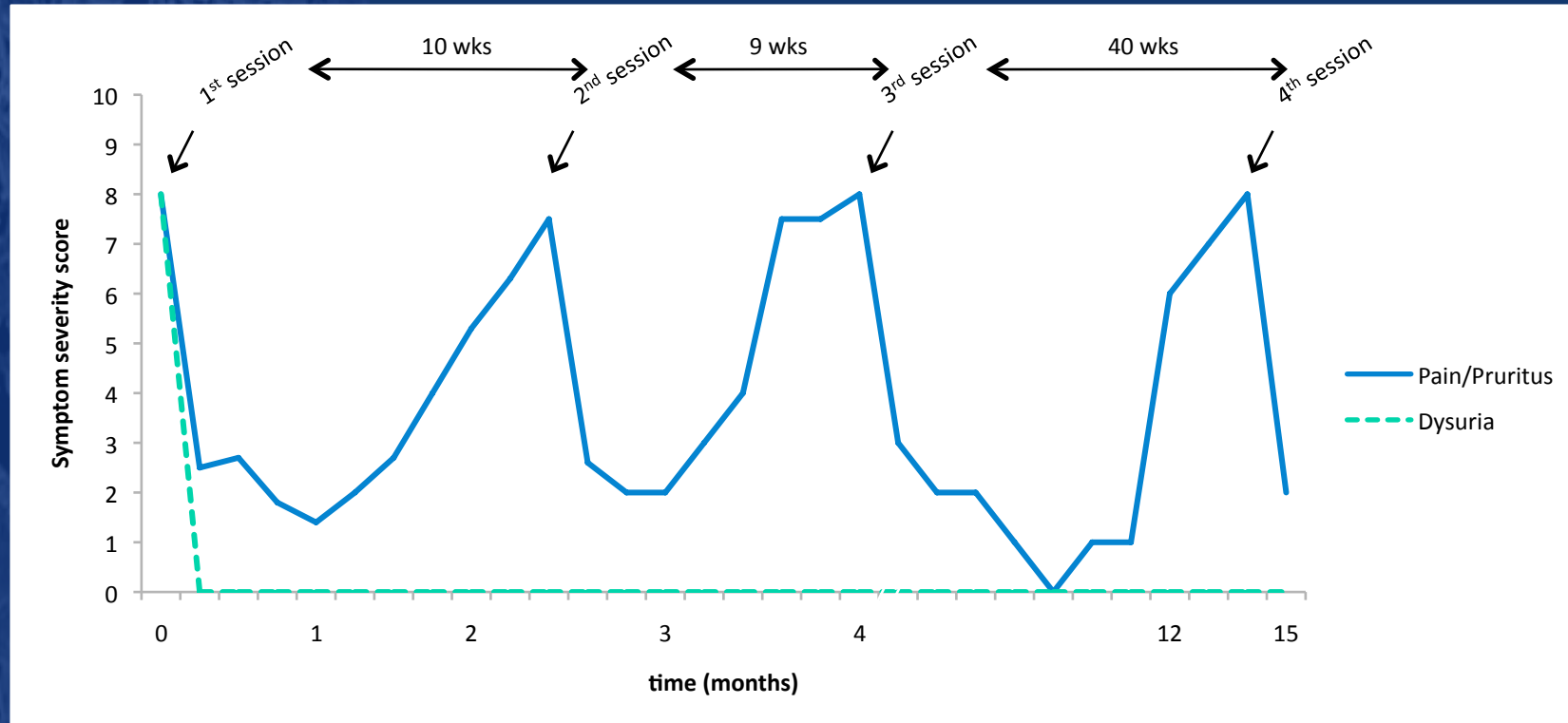


Figure 2. Hystopathological examination confirming the clinical diagnosis of lichen sclerosus: a band lymphocytic infiltrate is observed in the superficial dermis with associated hyalinization (x100).

CASE REPORT



Graphic 1. A total of 4 PDT sessions were performed. Symptomatic relief was reported as soon as one week after the first treatment. Dysuria remitted after the first session. Pain and pruritus reduced up to 80% from baseline after each treatment. Overall, while clinically unchanged, symptomatic response has been observed with every treatment, with longer intervals between sessions, and great improvement in patient's life quality.

DISCUSSION

- When inhaled, a ready to use medical gas mixture consisting of 50% nitrous oxide and 50% oxygen produces a pain-relieving, anxiolytic, and sedative effect without loss of consciousness; it is:
 - fast-acting, self-regulated, and rapidly eliminated once inhalation stops
 - safe (minimal, reversible side effects include drowsiness, euphoria and nausea)
 - used in short-term procedures in which analgesia and sedation with rapid onset and offset is sought
 - easily managed in outpatient clinics by trained dermatologists
- In the described case, the extension and the localization of LS would hardly enable a non-traumatic perineum illumination; pain control facilitated patient's adherence to treatment and acceptance of subsequent sessions.

CONCLUSION

- PDT appears to be effective in the symptomatic treatment of vulvar LS
- To the authors' knowledge this is the first case reporting the use of inhaled nitrous oxide/oxygen gas mixture during PDT performed in the genital area. Its analgesic and sedative effects may increase patients' adherence to this painful procedure.