

Case Reports

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Received on: 21/07/2020

Approved on: 17/02/2021

Study conducted at the Clarissa Reinehr Dermatologic Clinic, Feliz (RS), Brazil.

Financial support: None.

Conflict of interest: None.



Angiokeratoma of Fordyce treated with long pulsed Nd:YAG 1064 nm laser

Angioqueratoma de Fordyce tratado com laser Nd:YAG 1064nm pulso longo

DOI: <https://www.dx.doi.org/10.5935/scd1984-8773.20201243656>

ABSTRACT

Introduction: Angiokeratoma of Fordyce are benign vascular lesions that present as small, asymptomatic, purple papule on the scrotum, shaft of the penis, or labia majora. Therapeutic options comprise several methods, including lasers. **Case report:** Men presented with multiple violaceous papules on the scrotum, compatible with angiokeratoma of Fordyce. The patient was treated with a single session of long pulsed Nd:YAG 1064 nm laser. **Discussion:** Treating angiokeratomas with lasers has the benefit of allowing vessel coagulation without bleeding. **Conclusion:** Even though these are benign lesions, patients seek treatment because of cosmetic concerns. Dermatologists should be aware of treatment options available.

Keywords: Ambulatory Surgical Procedures; Dermatology; Nails

RESUMO

Introdução: angioqueratomas de Fordyce são pequenas pápulas violáceas, assintomáticas, localizadas no escroto, corpo do pênis ou nos grandes lábios. Vários métodos estão entre as opções terapêuticas, incluindo lasers. **Relato do caso:** homem, com múltiplas pápulas violáceas na bolsa escrotal, compatíveis com angioqueratomas de Fordyce. Foi realizado tratamento com uma única sessão de laser Nd:YAG de pulso longo. **Discussão:** o benefício do tratamento de angioqueratomas com lasers é permitir a coagulação dos vasos sem sangramento. **Conclusão:** embora sejam lesões vasculares benignas, angioqueratomas podem gerar preocupação estética. Dermatologistas devem estar cientes das opções de tratamento disponíveis.

Palavras-chave: Doenças da Unha; Procedimentos Cirúrgicos Ambulatoriais; Terapêutica

INTRODUCTION

Angiokeratoma of Fordyce are benign vascular lesions that present as small, asymptomatic, purple papule located on the scrotum, shaft of the penis, or labia majora. Therapeutic options include several locally destructive methods, such as electrode-siccation, laser, cryotherapy, and surgery.¹ Besides the cosmetic concern regarding these lesions, they become an issue due to the possibility of bleeding.²

CASE REPORT

A 37-year-old man, Caucasian, Fitzpatrick skin phototype III, presented multiple painless violaceous papules on the scrotum. Physical examination revealed more than 50 purple papules 2–3 mm in size on each side of the scrotum, compatible with angiokeratoma of Fordyce (Figure 1a). The patient



FIGURE 1: **A** - Clinical image of the scrotum containing several angiokeratoma of Fordyce before treatment; **B** - Clinical image of the scrotum one month after the procedure showing reduction of the lesion in number and size

reported varicocele surgery performed seven years ago. There was no evidence of testicular tumor or inguinal hernia. He had already tried treatment some months before with little response and desired to achieve more significant improvement. Before the procedure, an anesthetic cream containing lidocaine 23% and tetracaine 7% was applied and completely removed using soap and chlorhexidine solution after 60 minutes. The patient received a single session of long-pulse Nd:YAG laser ablation (Solon Platform[®], LMG Lasers) at a wavelength of 1064nm, with a spot size of 3mm, energy 212J, and pulse duration 15ms. The endpoint achieved was vessel darkening. One month after the procedure, we observed lesion reduction (Figure 1b) and overall improvement in skin texture. The patient was satisfied with the results achieved.

DISCUSSION

John Addison Fordyce first described Fordyce angiokeratoma of the scrotum in 1896. They can occur on the scrotum, shaft of the penis, labia majora, inner thigh, or lower abdomen.³ The lesions can be unique or numerous and diffusely spread. The pathophysiology remains uncertain.⁴

Fordyce angiokeratoma can occur in young men who underwent intense physical activity and in older men. Its prevalence ranges from 0.6% in men aged 16 to 20 years to 16.6% in men over 70 years.⁵

Differential diagnosis includes angiokeratoma corporis diffusum, malignant melanoma, and melanocytic nevus. Dermoscopy can be helpful to diagnose the condition, but sometimes a biopsy can be necessary.³

Laser treatment of Fordyce angiokeratoma has been described with KTP 532nm laser, long-pulsed Nd:YAG 1064nm, and 595nm pulsed dye laser.^{1,2,6-8} Treating angiokeratomas with lasers has the benefit of allowing vessels coagulation without bleeding. Bleeding can affect treatment performance and efficacy because it compromises the visualization of the lesions. The studies available described that up to six sessions are necessary to achieve complete lesion clearance.^{1,6,8}

Ozdemir et al. treated ten patients with 1064nm long-pulse Nd:YAG laser in two to six sessions, reaching significant (>75%, <100%) and moderate (>50%, <75%) improvement in six and two patients, respectively, two months after the end of therapy. One patient achieved complete improvement. Short-term adverse events observed in the study included transient swelling, purpura, bleeding, and pain.⁸ Another study by Ibrahim et al. compared long-pulsed Nd:YAG 1064nm laser with pulsed dye laser to treat angiokeratoma of Fordyce. The study treated 22 patients with three sessions of pulsed dye laser on a selected side or part of lesion area and with long-pulsed Nd:YAG laser on the other. Results showed that both lasers presented statistically significant improvements in angiokeratoma of Fordyce. Nd:YAG presented superior results (overall mean improvement with pulsed dye laser: 61.8% versus Nd:YAG: 77.63%; $p < 0.005$).¹ Therefore, we chose to use the Nd:YAG laser because, besides being the laser available (and access to pulsed dye lasers is not so easy), its use is also endorsed by literature.

CONCLUSIONS

Even though angiokeratomas of Fordyce are benign vascular ectatic lesions, some patients may seek treatment of these lesions to improve their quality of life because they can cause cosmetic concerns. Dermatologists should be aware of the treatment options available and discuss them with the patient to choose the best suitable method. ●

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