

ORIGINAL ARTICLE

A retrospective case series of the postoperative outcome for 30 dogs with inflammatory interdigital nodules, surgically treated with carbon dioxide laser and a nonantimicrobial wound-healing protocol

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Abstract

Background: Inflammatory interdigital nodules (IIN) affecting the paws of dogs is a multifactorial and painful condition. Surgery using carbon dioxide (CO₂) laser has been shown to be helpful in the management.

Hypothesis/Objectives: To assess a postoperative treatment protocol without use of antibiotics following CO₂ laser surgery for IIN treatment.

Animals: Forty-seven paws, in 30 client-owned dogs, with IINs affecting the interdigital web between the 4th and 5th digits of the forepaws, surgically treated using CO₂ laser, were included.

Materials and Methods: Medical records were reviewed for demographic details, medication use and wound healing using a set wound care protocol. Time to resolution of the surgical wounds and the postoperative outcome were assessed.

Results: The mean healing time was 34 days. Resolution was seen in 42 of 47 paws with complications in five paws (11%), including development of new fistulae or nonhealing granulation tissue. Surgery was repeated in those five cases. Relapse occurred during the follow-up period of five–19 months in six paws (13%).

Conclusions and Clinical Relevance: This study shows that surgical treatment with CO₂ laser for interdigital nodules is successful in most cases. The postoperative outcome using a wound-healing protocol avoiding use of antimicrobials can be used without compromising patient care whilst following antimicrobial stewardship guidelines.

INTRODUCTION

Interdigital inflammatory nodules and comedones in dogs are commonly occurring, intermittently fistulating painful and inflammatory lesions containing follicular material.¹ In many dogs, the lesions are recurrent or chronic. The cause of lesion development is considered multifactorial and includes inflammatory skin conditions such as demodicosis, atopic dermatitis, endocrinopathies, and also conformational and orthopaedic problems that give rise to abnormal weight-bearing and pressure on the skin around the pads.^{2,3} In some cases, an underlying cause cannot be identified. Rupture of the follicular cysts introduces follicular material into the surrounding tissue causing inflammation. Secondary deep bacterial infections often are recurrent and complicated management.⁴ Tissue remodelling frequently

can be seen on the palmar and plantar aspects of the paws with formation of new weight-bearing surfaces adjacent to the pads called 'pseudopads' or 'false paw pads'.³ Although multiple interdigital areas may be affected, cysts and draining tracts in heavier breeds are most commonly seen affecting the area between the 4th and 5th digits.¹ In addition to resolving or controlling the cause of lesion formation, removal of diseased tissue using carbon dioxide (CO₂) laser surgery has been shown to be beneficial in some cases refractory to medical treatment.¹ Whilst previous postoperative protocols have used systemic and/or topical antibiotics, with the global movement towards antimicrobial stewardship, wound care protocols that do not include antibiotics are worth exploring.

This study aimed to evaluate cases where antibiotics had not been prescribed following CO₂ laser surgery

and a standardised surgical and postoperative wound care protocol was used. Wound-healing time, complications, outcome and recurrence of lesions as well as suspected causes of lesion development in dogs presenting with interdigital nodules, comedones and/or pseudopads affecting the interdigital space between the 4th and 5th digits of the forepaws were assessed.

MATERIALS AND METHODS

Selection of affected dogs

The clinical records of all dogs undergoing CO₂ laser surgery for inflammatory interdigital nodules (IIN) between January 2018 and January 2020 at Anicura Norsholms Djursjukhus (Sweden) were assessed. Dogs with a body weight >20 kg with lesions located in the interdigital web between the 4th and 5th digits of the forepaws were included in the study. Dogs given antimicrobials at the time of surgery were excluded.

Data collection

The clinical records were assessed, and information about sex, breed, age, body weight, suspected or confirmed cause of lesion development, surgical methods used, postoperative care, medical treatments used during and following surgery, and follow-up was extracted from the records. Owners of dogs where the records did not contain information about the surgical outcome were contacted by phone for an interview. The healing time following surgery was based on absence of non-healed wounds affecting the surgical site as assessed by the clinician or the owner. In cases where both paws were treated simultaneously, time-to-healing was based on the paw taking the longest time to heal.

RESULTS

Medical record search identified 31 cases that fitted the inclusion criteria; one case was excluded as a consequence of antibiotic treatment following surgery. Thirty cases with 47 treated paws were included in the study. Demographic data are presented in Table 1. Age ranged from two to 10 years with a mean of 5.1 years, and body weight ranged from 21 to 56 kg with a mean of 38.5 kg (males 39.7 kg, females 29.2 kg). Table 2 lists predisposing or contributing medical conditions.

Clinical data about the pathological findings of the paws are listed in Table 3. In six dogs with bilateral lesions, only one paw was surgically treated, because either surgery of the other paw had already been performed, or the lesions present were small and asymptomatic. The lesions varied, ranging from a firm palpable nodule in the 4th/5th interdigital web, often associated with ventral comedones or hyperplasia, to variable degrees of new tissue formation on the medial aspect of the 5th digit, often associated with a hyperkeratotic surface (pseudopad) (Figure 1a,b). Nodules

TABLE 1 Demographic characteristics of dogs with interdigital follicular cysts

	n (30)	%
Age at onset		
<2 years	16	53
>2 years	14	47
Sex (neutered)		
Male	25 (8)	83 (32)
Female	5 (0)	17
Breeds		
Labrador retriever	14	47
Golden retriever	7	23
Other ^a	9	30

^aBoxer (*n* = 3), rottweiler (*n* = 2), one each: Samoyed, Swedish elkhound, bullmastiff, mixed breed.

TABLE 2 Predisposing and contributing diagnoses for dogs with inflammatory interdigital nodules

	n (30)	%
Dermatological diagnosis	13	43
Atopic dermatitis (AD)	7	
Adverse food reaction and AD	4	
Other dermatological diagnosis ^a	2	
Orthopaedic diagnosis	18	60
Osteoarthritis in phalanx	12	
Other osteoarthritis ^b	5	
Other orthopaedic diagnosis ^c	1	
Dermatological and orthopaedic diagnosis	9	30
Dermatological diagnosis only	7	23
Orthopaedic diagnosis only	9	30
No dermatological or orthopaedic diagnosis	5	17

^aHypothyroidism, nasodigital hyperkeratosis.

^bOsteoarthritis in hips (*n* = 1), elbows (*n* = 1), carpal joints (*n* = 1), multiple joints (*n* = 1).

^cWeak tendons and abnormal position of the forepaws.

TABLE 3 Pre-operative clinical data for dogs with interdigital follicular cysts

	Number of dogs (n = 30)	Number of paws (n = 47)	(%)
Affected forepaws			
One paw		7	23
Both paws		23	77
Duration of symptoms			
>4 years	7		23
<4 years	23		77
Dorsal fistulation		23	49
Pseudopad formation		27	57
Prior medical treatment	20		67
Corticosteroids	7		23
Ciclosporin	6		20
NSAIDs	9		30
No treatment	8		27
Other ^a	4		13

Abbreviation: NSAID, nonsteroidal anti-inflammatory drug.

^aLokivetmab, levothyroxine, allergen-specific immunotherapy.

could be associated with a fistulous tract, opening either dorsally between digits IV and V, or in some cases, opening on the palmar surface of the paw in the interdigital web (Figure 2a,b).

Surgical procedure

The surgery was performed under general anaesthesia. Paws were clipped and prepared for a sterile surgical procedure, and the dog and paws were covered with a sterile drape. A tourniquet was applied at the metacarpal region before surgery to reduce bleeding. An AE-2010 (Aesculight) waveform guide CO₂ laser was used. The laser settings varied between 8 and 12W continuous mode and a beam diameter of 0.25 mm for excision and 0.4 × 3 mm for ablation (broad ceramic tip). Smoke was evacuated using a Buffalo smoke evacuator handled by an assistant. The interdigital nodule, located on the medial aspect of the 5th digit and/or extending into the interdigital web between digits IV and V, together with the pseudopad formation when one was present, was excised starting with a rounded incision at the palmar aspect of the paw and thereafter by grasping the tissue with a forceps and dissecting around and beneath the nodule together with the pseudopad until only a thin layer of abnormal tissue remained. This layer was thereafter carefully ablated until the tissue surface was without macroscopically evident lesions. In cases of draining tract formation, the tract was followed and lasered from the dorsal aspect in a ventral direction. A few cases were sutured on the dorsal aspect of the interdigital space as a consequence of severe fistulation and extensive tissue removal. A surgical assistant

helped with application of traction and positioning of the paw during surgery. Saline-soaked gauze swabs were used to remove carbonised tissue during lasering. The surgical sites were left open for second-intention healing.

Postoperative care

The wounds were covered with alginate dressings (Suprasorb A; Lohman & Rausher) and a bandage following surgery. The bandage was protected from getting wet using plastic bags and/or boots outdoors, and a buster collar was applied to prevent licking until the surgical site had healed. Buprenorphine tablets 0.03 mg/kg (Temgesic resoriblet 0.2 mg; Indivior Europe) were prescribed for two days following surgery and meloxicam (Metacam oral suspension 1.5 mg/mL; Boehringer Ingelheim Animal Health) for 7–14 days depending on pain assessment during the postoperative period. Bandages were changed, and the wounds cleaned every other day for the first 10–14 days. Cleaning was performed using saline. Medical manuka honey (Activon; Advancis Medical UK) was applied to the surface of the wound following cleaning. A barrier cream containing ichthammol/zinc oxide/titanium dioxide (Inotyol; BGP Products Ltd) was applied to the interdigital spaces of the digits not surgically treated to reduce trauma from friction. Bandage changes were usually performed by a veterinarian or veterinary nurse for the first two changes, and thereafter by the owner at home. At the first bandage change, the alginate gel was removed by gentle grasping. The wound surface was then rinsed with saline, and a



FIGURE 1 (a) Paw clipped for surgery showing a large pseudopad adjacent to the pad of the 5th digit with an inflamed area of tissue formation extending along the digit to the interdigital web. (b) Medial aspect of the 5th digit with a small pseudopad and a nodule extending into the interdigital web. The area within the markings is the area removed during surgery. N, nodule; PP, pseudopad



FIGURE 2 (a) Nodular lesion on the medial aspect of the 5th digit with multiple comedones, emptying keratinaceous material to the surface of the skin when expressed. (b) Interdigital nodule affecting the web between digits IV and V with a small fistulous tract opening to the palmar surface

thin layer of manuka honey was applied to the surface of the wound. In cases of remaining fistulation, the tract was rinsed with saline. This was done in the consultation room together with the owner to teach the procedure, and to evaluate pain and to ensure that the dog could be handled without sedation. After the first healing period of 10–14 days, the wounds were protected using a thin bandage and a boot outdoors whilst no protection was used indoors. At this stage, re-epithelialisation of the wound edges was seen, and the wound surface was covered by granulation tissue and there was no need for protection indoors (Figure 3). Medical honey was applied until the wound surface had fully re-epithelialised.

Follow-up after surgery ranged from five to 19 months with a mean of 11 months. Time-to-healing of the surgical site(s) was available in 26 of 30 cases with a mean healing time of 34 days (range 22–46). Postoperative outcome data are presented in Table 4. Complications arose in five paws and included development of a new fistula on the dorsal aspect of the paw between digits IV and V or nonhealing granulation tissue. Surgery was repeated in these five cases; three of these had complete healing, one had a second relapse, and one was lost to follow-up. Including the cases that underwent a second surgery, there was a 13% relapse rate.

Antimicrobials were prescribed to one dog during the healing period as a result of a suspected infection (excluded from analysis). A further two cases were suspected to have infection and had a bacterial culture



FIGURE 3 Wound-healing 14 days postsurgery showing a re-epithelialised rim around the wound and healthy granulation tissue

sample obtained from the surgical site with growth of *Pseudomonas spp* and *Enterococcus spp*, respectively. Despite the culture results, topical management was continued using wound cleaning and medical honey applications. These wounds healed without complications.

TABLE 4 Postoperative outcome following laser surgery

	Number of paws (<i>n</i> = 47)	(%)
Follow-up <2 months		
No complication	42	89
Complication	5	11
Follow-up for ≤19 months		
No relapse	41	87
Relapse	6	13

DISCUSSION

This study assessed the results of a postoperative treatment protocol following CO₂ laser surgery of chronic IINs. The nonantimicrobial postoperative wound care protocol appears as effective as a protocol published previously.¹ That protocol included systemic and topical antimicrobial treatment. Wound-healing time was not reported so it is not possible to make a direct comparison between protocols. The dogs treated also were somewhat different, and whilst most of the dogs in the previous study were reported to show changes between digits IV and V of the forepaws, other areas of the paws, including hind paws, were included. In addition, the surgical method used differs slightly between the studies although the aim in how much tissue to remove was similar. In the present study, more tissue was excised while in the previous study ablation was used to a greater extent. Owing to the differences between these two studies and their retrospective nature, the complication rates following surgery cannot be fully compared. In the previous study, 11 of 27 (41%) cases were reported to show a complication and underwent repeat surgery. The follow-up period in the previous study was longer with a minimum of one year follow-up. It is possible that additional recurrences occurred later in the dogs in our study but were not brought to our attention. However, as a minimum of five months of follow-up was available in all cases in our study, later relapses are unlikely to be associated with the postoperative wound management used and are more likely to be secondary to the underlying problem causing these lesions to develop. The relatively low complication rate seen during healing suggests that a protocol avoiding systemic or topical antimicrobial treatment during the healing period produces similar results to one in which antimicrobials are routinely used.

The wound surfaces following surgery produce discharge, particularly during the first week after surgery. The discharge gradually decreases as the surface heals. Wound healing is a complicated process and paws are considered to have an increased risk for microbial contamination during healing as they are both difficult to protect and clean.⁵ Manuka honey has antimicrobial activity and chemical properties that enhance wound healing and tissue regeneration.^{6,7} A longer healing period was not noted in the cases showing presence of micro-organisms on culture compared to the other cases in this study. Because Manuka honey was used for all cases, a difference in healing time compared to

protocols using systemic or topical antibiotics cannot be determined in this study. With the global movement to reduce antimicrobial use, our findings suggest that routine antibiotics can be avoided in most cases.

Routine postoperative pain relief was prescribed to all dogs following surgery; one dog was reported to show pain following surgery. Bandage changes were accomplished without sedation in most of the patients. The high comfort level following surgery potentially is a result of using a CO₂ laser rather than traditional surgery. The CO₂ laser seals nerve-endings, and there is usually very little pain following surgery.⁸

The pathogenesis of IFC and pseudopod formation is described as multifaceted including dermatological, conformational and orthopaedic conditions.^{9,10} Our findings align with this description. The majority of dogs in this cohort were either golden retrievers or Labrador retrievers supporting the suggestion in the literature that these breeds are predisposed to interdigital nodules and pseudopods affecting the forepaws.¹ Labrador retrievers have been described as having wide-based paws, which could contribute to increased weight-bearing on haired interdigital skin leading to the development of callus-like pseudopods.³ In addition, osteoarthritis has been described as a contributing cause of abnormal weight-bearing and the development of interdigital lesions.^{1,2} In this study, 60% of the dogs had confirmed osteoarthrosis with the majority of these showing affected digits (40%).

It has been suggested that abnormal weight-bearing and frictional trauma contribute to the development of interdigital lesions.^{1,3,9} Male dogs usually are larger and heavier than female dogs and potentially weight alone could be the cause of the higher number of lesions seen in male dogs. In this study, 83% of affected dogs were male, which is higher than reported previously (67%).¹

The dogs treated in this report were cases in which medical treatment had either failed or was no longer controlling clinical signs. Tissue changes were pronounced and chronic with duration over four years for some. Although it can be difficult to control the different contributing causes of IINs, the results of CO₂ laser surgery can be rewarding and improve quality of life.¹

This study shows that CO₂ laser surgery followed by wound management avoiding antibiotics can be used without impaired healing or increased complication rate. Antimicrobial stewardship recommendations can be followed without compromising patient care.

AUTHOR CONTRIBUTIONS

Rebecka Frey: Conceptualization; data curation and investigation; writing original draft review and editing.

Katarina Varjonen: Conceptualization; supervision; writing - review and editing.

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CONFLICT OF INTEREST

No conflicts of interest have been declared.

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Résumé

Contexte: Chez le chien, le syndrome des kystes folliculaires inflammatoires interdigités (KFI) affectant les extrémités constitue une affection multifactorielle et douloureuse. La chirurgie au laser au dioxyde de carbone (CO₂) s'avère utile dans sa prise en charge.

Hypothèse/Objectifs: Évaluer un protocole postopératoire de traitement des KFI sans antibiothérapie après chirurgie au laser CO₂.

Animaux: Trente chiens souffrant de KFI, soit 47 espaces interdigités (entre les doigts IV et V des membres thoraciques), traités chirurgicalement au laser CO₂, ont été inclus.

Matériels et méthodes: Les dossiers médicaux ont été examinés concernant les données démographiques, les médicaments reçus et la cicatrisation des plaies selon le protocole de soin des plaies défini. Le délai de cicatrisation des plaies chirurgicales et les résultats postopératoires ont été évalués.

Résultats: Le délai moyen de cicatrisation était de 34 jours. Une résolution a été observée pour 42 des 47 extrémités traitées. Des complications ont été rapportées dans cinq cas (11 %) avec le développement de nouvelles fistules ou d'un tissu de granulation ne cicatrisant pas. La chirurgie a été répétée dans ces cinq cas. Une rechute s'est produite au cours de la période de suivi de 5 à 19 mois pour six extrémités (13 %).

Conclusions et implication clinique: Cette étude montre que le traitement chirurgical au laser CO₂ du syndrome du kyste folliculaire interdigité est efficace dans la plupart des cas. Le recours à un protocole de cicatrisation postopératoire sans antibiotiques peut être mis au profit du traitement des KFI tout en respectant les directives de gestion des antimicrobiens.

Resumen

Introducción: El síndrome de los quistes foliculares interdigitales inflamatorios (IFC) que afecta las extremidades de perros es una enfermedad multifactorial y dolorosa. Se ha demostrado que la cirugía con láser de dióxido de carbono (CO₂) es útil en el tratamiento.

Hipótesis/Objetivos: Evaluar un protocolo de tratamiento postoperatorio sin uso de antibióticos después de la cirugía con láser de CO₂ para el tratamiento de IFC.

Animales: Se incluyeron cuarenta y siete extremidades de 30 perros de propietarios particulares con IFC que afectaban la piel interdigital entre los dígitos 4 y 5 de las patas delanteras, tratados quirúrgicamente con láser de CO₂.

Materiales y métodos: se revisaron los historiales médicos para conocer los detalles demográficos, el uso de medicamentos y la cicatrización de heridas utilizando un protocolo establecido para el cuidado de heridas. Se evaluó el tiempo de resolución de las heridas quirúrgicas y el resultado postoperatorio.

Resultados: El tiempo medio de cicatrización fue de 34 días. Se observó resolución en 42 de 47 extremidades con complicaciones en cinco patas (11%), incluido el desarrollo de nuevas fistulas o tejido de granulación que no cicatrizaba. En esos cinco casos se repitió la cirugía. Se observó recidiva durante el período de seguimiento de 5 a 19 meses en seis extremidades (13%).

Conclusiones y relevancia clínica: Este estudio demuestra que el tratamiento quirúrgico con láser de CO₂ para el síndrome de quistes foliculares interdigitales es exitoso en la mayoría de los casos. El resultado postoperatorio con un protocolo de curación de heridas que evita el uso de antimicrobianos se puede utilizar sin comprometer la atención del paciente mientras se siguen las pautas de administración de antimicrobianos

Zusammenfassung

Hintergrund: Das Syndrom der entzündlichen interdigitalen follikulären Zysten (IFC) welches die Pfoten von Hunden betrifft, ist eine multifaktorielle und schmerzhaft Erkrankung. Es konnte gezeigt werden, dass Chirurgie mittels Kohlenstoffdioxid (CO₂) Laser beim Management der Erkrankung hilfreich ist.

Hypothese/Ziele: Das Ziel dieser Studie war es, ein postoperatives Behandlungsprotokoll ohne den Einsatz von Antibiotika als Folge einer CO₂ Laser Therapie für die Behandlung von ICF zu erstellen.

Tiere: Siebenundvierzig Pfoten von 30 Hunden in Privatbesitz mit IFCs, die die interdigitale Schwimnhaut zwischen den 4ten und 5ten Zehen der Vorderfüße betrafen und mit CO₂ Laser chirurgisch behandelt worden waren, wurden inkludiert.

Materialien und Methoden: Es wurden die medizinischen Daten durchgesehen wobei demografische Details, verwendete Medikamente und Wundheilung mittels standardisiertem Wundheilungsprotokoll beurteilt wurden. Es wurden die Dauer bis zur Abheilung der chirurgischen Wunden und das postoperative Ergebnis erfasst.

Ergebnisse: Die durchschnittliche Heilungsdauer betrug 34 Tage. Eine Abheilung wurde bei 42 der 47 Pfoten gesehen, wobei es bei fünf Pfoten (11%) zu Komplikationen kam, wie die Entstehung neuer Fisteln oder nichtheilendem Granulationsgewebe. Bei diesen fünf Fällen wurde die chirurgische Intervention wiederholt. Es kam während der Follow-Up Periode von 5-19 Monaten bei sechs Pfoten (13%) zu einem Rückfall.

Schlussfolgerungen und klinische Bedeutung: Diese Studie zeigt, dass die chirurgische Behandlung mittels CO₂ Laser des interdigitalen follikulären Zystensyndroms in den meisten Fällen erfolgreich ist. Das postoperative Ergebnis mittels Wundheilungsprotokoll unter Vermeidung von Antibiotika Einsatz kann eingesetzt werden, ohne die Betreuung des Patienten zu vernachlässigen während antimikrobielle Stewardschips Richtlinien eingehalten werden.

要約

背景: 犬の四肢を侵す炎症性趾間毛包嚢胞(IFC)症候群は、多因子性で痛みを伴う疾患である。炭酸ガスレーザーを用いた手術が有効であることが示されている。

仮説/目的: 本研究の目的は、IFC治療のためのCO₂レーザー手術後、抗生物質を使用しない術後治療プロトコルを評価することであった。

供試動物: 前脚の第4、5指間の水かき部分を侵すIFCで、CO₂レーザーを用いて外科的治療を行ったオーナー所有犬30頭の47肢が対象となった。

材料と方法: 医療記録は、人口統計学的詳細、薬物使用、および設定された創傷ケアプロトコルを用いた創傷治療についてレビューされた。術創が治癒するまでの期間および術後の転帰を評価した。

結果: 平均治癒期間は34日であった。47肢中42肢で治癒が認められたが、5肢(11%)で新たな瘻孔の発生や治癒しない肉芽組織などの合併症が認められた。この5例では手術が繰り返された。5-19カ月の追跡期間中に6肢(13%)に再発がみられた。

結論と臨床的意義: 本研究は、趾間毛包嚢胞症候群に対するCO₂レーザーによる外科的治療は、ほとんどの症例で成功することを示している。抗菌薬の使用を避けた創傷治療プロトコルを用いた術後成績は、抗菌薬管理ガイドラインに従いつつ、症例のケアを損なうことなく使用することが可能である。

摘要

背景: 响犬爪的炎性趾间毛囊囊肿 (IFC) 综合征是一种多因素和疼痛性疾病。使用二氧化碳 (CO₂) 激光进行手术已被证明有助于治疗。

假设/目的: 估 CO₂ 激光手术治疗 IFC 后不使用抗生素的术后治疗方案。

动物: 入了30只私家犬的47只爪, IFC发生在前爪第4和第5趾之间的趾间蹼, 使用 CO₂ 激光进行手术治疗。

材料和方法: 顾病历中的动物细节、药物使用和伤口愈合(使用完整伤口护理方案)。评估了手术伤口消退的时间和术后结果。

结果: 均愈合时间34d。47只爪中有42只缓解, 5只爪出现并发症 (11%), 包括出现新瘻或肉芽组织不愈合。这5例重复手术。6只爪 (13%) 在5-19个月的随访期间复发。

结论和临床相关性: 研究表明, CO₂激光手术治疗趾间毛囊囊肿综合征在大多数病例中是成功的。使用伤口愈合方案避免使用抗菌药物的术后结果, 不会给病患护理带来不良影响, 同时也遵循了抗菌药物管理指南。

Resumo

Contexto: A síndrome dos cistos foliculares inflamatórios interdigitais (CFI) que afeta as patas de cães é uma doença multifatorial e dolorosa. A cirurgia a laser de dióxido de carbono (CO₂) tem se mostrado útil no manejo da doença.

Hipótese/Objetivos: Avaliar um protocolo de tratamento pós-operatório sem a uso de antibióticos após cirurgia a laser de CO₂ para o tratamento de CFI.

Animais: Foram inclusos quarenta e sete patas, em 30 cães de clientes, com CFI afetando os dedos IV e V dos membros torácicos.

Materiais e Métodos: Os registros médicos foram revisados para detalhes demográficos, uso de medicamentos e cicatrização de feridas usando um protocolo de tratamento de feridas definido. O tempo de resolução das feridas cirúrgicas e o resultado pós-operatório foram avaliados.

Resultados: O tempo médio de cicatrização foi de 34 dias. A resolução foi observada em 42 das 47 patas com complicações em cinco patas (11%), incluindo o desenvolvimento de novas fístulas ou tecido de granulação não cicatrizado. A cirurgia foi repetida nesses cinco casos. A recidiva ocorreu durante o período de acompanhamento de 5 a 19 meses em seis patas (13%).

Conclusões e relevância clínica: Este estudo mostra que o tratamento cirúrgico com laser de CO₂ para a síndrome do cisto folicular interdigital é bem-sucedido na maioria dos casos. O resultado pós-operatório usando um protocolo de cicatrização de feridas evitando o uso de antimicrobianos pode ser usado sem comprometer o cuidado do paciente, seguindo as diretrizes de administração antimicrobiana.