

Tissue Damage in a Patient with Neglected Dermatofibrosarcoma Protuberans (DFSP) at Pakan Kamis Community Health Center: A Rare Case Report

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ABSTRACT

Background: Dermatofibrosarcoma protuberans is a rare soft-tissue sarcoma. Diagnostic delays in primary care often led to extensive tissue damage. This report illustrated the clinical course and management challenges of a neglected tumor at a community health center.

Case Presentation: A 50-year-old laundry worker presented in February 2024 with a 3-year history of right upper back pain and a violaceous, firm nodule (3 × 2 × 1 cm) previously treated by traditional healers. Radiographs excluded bone involvement. Excisional biopsy confirmed DFSP with fibrosarcomatous features. In April 2024, wide excision with 2 cm margins achieved clear histologic borders. From May 2024 to January 2025, she received adjuvant radiotherapy (35 × 2 Gy), during which skin blistering and infection were managed with bi-daily wound care. A surveillance CT in January 2025 showed stable necrotic changes and no metastases. Persistent shoulder pain and restricted mobility prompted physiotherapy.

Discussion: Dermatofibrosarcoma protuberans (DFSP) is a rare, indolent sarcoma whose delayed recognition in primary care—as illustrated here—

necessitated wide excision and radiotherapy, underscoring the value of early diagnosis and a coordinated, multidisciplinary treatment strategy. Post-treatment physiotherapy targeting shoulder pain was essential to restore function, improve mobility, relieve pain, and optimize the patient's quality of life.

Conclusion: Early recognition of atypical cutaneous lesions, structured referral pathways, and a multidisciplinary approach are essential in resource-limited settings. Enhanced training for general practitioners and integration of surgical, oncologic, radiotherapeutic, and rehabilitative services can reduce diagnostic delays and optimize functional recovery.

Keywords: Neglected Cancer, Sarcoma, Dermatofibrosarcoma Protuberans (DFSP), Tissue Damage

INTRODUCTION AND IMPORTANCE

Dermatofibrosarcoma protuberans is an uncommon dermal soft-tissue sarcoma with an estimated incidence of 4.1–4.5 per million persons per year and a prevalence of 0.1% among all malignancies [1]. It typically affects adults between 20 and 59 years old, presenting as a slowly enlarging plaque or nodular lesion on the trunk or

proximal extremities. Histopathology demonstrates a storiform arrangement of spindle cells with strong CD34 immunoreactivity, and over 90% of tumors harbor a t (17;22) (q22; q13) translocation that creates a COL1A1-PDGFB fusion gene, driving tumor growth [2]. The 2025 NCCN guidelines recommend margin-controlled excision (2–3 cm margins) or Mohs micrographic surgery, with adjuvant radiotherapy for close or positive margins, and imatinib mesylate for unresectable or metastatic disease [3]. Delayed recognition in primary care often results in large tumors requiring extensive resection, thus heightening morbidity. We present a rare neglected DFSP case managed at a community health center to highlight diagnostic challenges and best practices in multidisciplinary care.

CASE ILLUSTRATION

A 50-year-old female laundry worker presented in February 2024 with a 3-year history of right upper back pain and a progressively enlarging violaceous nodule. Initial primary care evaluations misattributed her symptoms to musculoskeletal sprain. Traditional herbal treatments offered no relief.

Clinical Findings

Date	Intervention	Outcome
Mar 2024	Excisional biopsy	DFSP with differential diagnosis FS
Apr 2024	Wide local excision (2 cm margins)	DFSP with granulomatous inflammation
May 2024–Jan 2025	Radiotherapy (35 × 2 Gy fractions)	Tumor bed irradiation
Jun 2024–Jan 2025	Bi-daily wound care for radiotherapy-induced skin blisters	Wound healing achieved
Jan 2025	surveillance CT	Stable post-treatment changes
Jan 2025	Physiotherapy referral	Ongoing shoulder pain management

Table 1. Interventions and outcome

On examination, the lesion measured 3 × 2 × 1 cm, was firm, non-tender, and fixed to the dermis. No regional lymphadenopathy was noted.

Diagnostic Workup

Plain radiography of the scapular region showed no osseous involvement. Excisional biopsy and wide local excision revealed storiform spindle cells with vascular hyperemia, bleeding, lymphocytes, plasma cells, PMN leukocytes, and giant cells.. Staging CT showed a necrotic soft-tissue mass in the scapular-deltoid region without distant metastasis.

Treatment and Follow-Up

In April 2024, wide local excision with 2 cm margins achieved clear histologic margins. From May to Jan 2024, she received 35 × 2 Gy fractions of radiotherapy. Skin blistering and infection during radiotherapy were managed with bi-daily wound care at the community health center. A surveillance CT in Januari 2025 confirmed stable post-treatment changes. By Januari 2025, skin healing was nearly complete, but the patient reported shoulder pain on movement. A tailored physiotherapy program was commenced to restore function and alleviate pain [4].



Figure 1. Before Refferal



Figure 2. After First Surgical



Figure 3. After Resection



Figure 4. During Radiotherapy



Figure 5. Current Condition

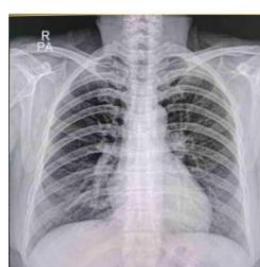


Figure 6. X-Ray

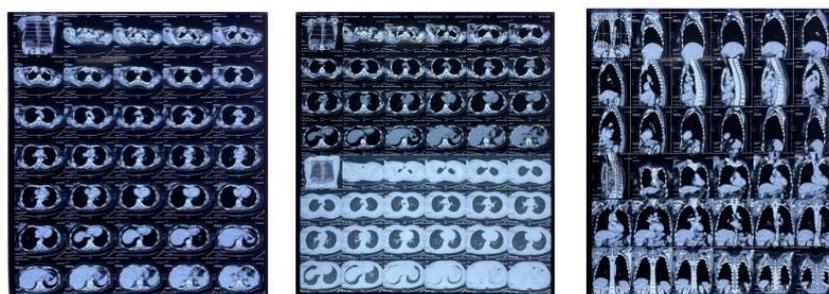


Figure 7. CT Scan

DISCUSSION

DFSP's indolent growth and rarity often result in delayed diagnosis in primary care. Lesions may be mistaken for benign plaques or musculotendinous injuries, as seen in this case. Dermoscopic features—homogeneous pigmentation, whitish streaks, and arborizing vessels—can prompt early biopsy, while any firm, fixed, or enlarging cutaneous lesion >2 cm warrants specialist referral [3].

Surgical Management

Wide local excision with 2–3 cm margins remain the standard, achieving local

recurrence rates below 10 percent when histologic margins are clear. Mohs micrographic surgery further reduces recurrence to under 5 percent by mapping subclinical extensions. Adjuvant radiotherapy (60–66 Gy via IMRT or proton therapy) is indicated for close or positive margins and fibrosarcomatous transformation, lowering recurrence while minimizing toxicity [3,5].

Molecular and Novel Therapies

Imatinib mesylate, targeting the COL1A1–PDGFB fusion, yields 50–60 percent response rates in unresectable or recurrent

DFSP. Second-generation tyrosine kinase inhibitors (e.g., nilotinib) address imatinib-resistant cases, and early-phase PD-1/PD-L1 inhibitor trials report durable responses with manageable safety profiles [7,8,9].

Physiotherapy

Physiotherapy post-treatment fibrosis and impaired shoulder mobility substantially impair quality of life. Early, structured physiotherapy—including range-of-motion exercises, manual lymphatic drainage, and AI-enhanced digital rehabilitation—accelerates functional recovery and reduces chronic pain [4,10].

Integrated Care Models

Optimal DFSP management requires collaboration among general practitioners, dermatologists, oncologic surgeons, radiation oncologists, pathologists, molecular diagnosticians, and physiotherapists. Tele dermatology with AI-assisted lesion analysis and electronic referral alerts can shorten diagnostic delays. Hands-on dermoscopy workshops for primary care providers and multidisciplinary tumor boards further streamline care pathways [10].

Comparison

Comparison with published cases underscores how timing of intervention shapes outcomes:

Early diagnosis and management: In a series of six DFSP cases by Sheidaei et al., all lesions underwent wide local excision within six months of presentation, achieved histologically clear 2–3 cm margins, and showed no recurrences at a median 24-month follow-up [11].

Delayed recognition: Torresetti et al. describe a DFSP misdiagnosed as a vascular malformation for over 30 years. The prolonged delay necessitated an extensive resection with complex miniabdominoplasty reconstruction to restore form and function, highlighting the reconstructive challenges and increased morbidity associated with late-stage management [12].

These contrasting scenarios illustrate that any firm, fixed, or enlarging cutaneous lesion > 2 cm warrants early specialist referral and biopsy to avoid extensive surgery and rehabilitative needs [3]. Embedding dermoscopy workshops in primary care, leveraging tele dermatology with AI-assisted lesion analysis, and instituting electronic referral alerts can further shorten diagnostic latency [10]. Multidisciplinary tumor boards ensure coordinated surgical, oncologic, radiotherapeutic, and rehabilitative planning, optimizing functional recovery and quality of life [10].

CONCLUSION

This rare case of neglected DFSP at a primary care center highlights the need for heightened clinical vigilance, timely biopsy of atypical cutaneous lesions, and streamlined referral pathways. Adherence to NCCN guidelines for margin-controlled excision, judicious use of adjuvant radiotherapy, and incorporation of molecular and immunotherapeutic strategies are key to reducing morbidity. Structured educational initiatives and multidisciplinary collaboration will improve early detection and patient outcomes in resource-limited settings.

Declaration by Authors

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REFERENCES

1. Jozwik M, Bednarczuk K, Osierda Z. Dermatofibrosarcoma protuberans: an updated review of the literature. *Cancers*. 2024;16(18):3124. doi:10.3390/cancers16183124
2. Cong Peng, et al. Genomic alterations of dermatofibrosarcoma protuberans revealed by whole-genome sequencing, *British Journal of Dermatology*, Volume 186, Issue 6, 1 June 2022, Pages 997–1009, <https://doi.org/10.1111/bjd.20976>

3. Bordeaux J, et al. Dermatofibrosarcoma Protuberans, Version 1.2025, NCCN Clinical Practice Guidelines in Oncology. J Natl Compr Canc Netw. 2025;23(1): e250001. doi:10.6004/jnccn.2025.0001
4. Adriaenssens N, et al. The role of physiotherapy in cancer care. World Physiotherapy Congress Proceedings. 2021. DOI:10.48252/JCR78
5. Meng Z, Zhang R, Sun Z, et al. Hotspots and future trends of dermatofibrosarcoma protuberans: a bibliometric analysis. Front Oncol. 2024; 14:1399486. DOI: 10.3389/fonc.2024.1399486
6. Hao X, et al. Dermatofibrosarcoma Protuberans: Update on Diagnosis and Treatment. J Clin Med. 2020;9(6):1752. DOI: 10.3390/jcm9061752
7. McArthur G. Molecularly targeted treatment for dermatofibrosarcoma protuberans. Semin Oncol. 2004 Apr;31(2 Suppl 6):30-6. doi: 10.1053/j.seminoncol.2004.03.038. PMID: 15176002.
8. Beaziz J, Battistella M, Delyon J, Farges C, Marco O, Pages C, et al. Long-term outcome of neoadjuvant tyrosine kinase inhibitors followed by complete surgery in locally advanced dermatofibrosarcoma protuberans. Cancers (Basel). 2021; 13(9):2224. doi:10.3390/cancers13092224
9. Li X, Zhou Y, Xu B, Qin Y, Zhao J, et al. Comparison of efficacy discrepancy between early-phase clinical trials and phase III trials of PD-1/PD-L1 inhibitors. J Immunother Cancer. 2024;12(1): e007959. doi:10.1136/jitc-2023-007959
10. Minkman MM, van der Vlegel-Brouwer W, Huijsman R. The renewed Development Model for Integrated Care: a systematic review and model update. BMC Health Serv Res. 2025; 25:434. DOI: 10.1186/s12913-025-12610-2
11. Sheidaei S, et al. Dermatofibrosarcoma protuberans challenges: a case series and review of the literature. J Med Case Rep. 2023; 17:18. doi:10.1186/s13256-022-03728-6
12. Torresetti M, et al. An unusual case of dermatofibrosarcoma protuberans misdiagnosed as vascular malformation for over 30 years: a case report. Int J Surg Case Rep. 2024; 116:109407. doi: 10.1016/j.ijscr.2024.109407

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