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# Surgical Treatment of Frontal Darier-Ferrand Dermatofibrosarcoma (DFS) About a Case

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**Abstract**

***Introduction:*** ***Darier-Ferrand dermatofibrosarcoma (DFS) is a rare cutaneous mesenchymal tumour, the extent of tumour spread of which is often underestimated. It is distinguished by its local aggressiveness and its significant potential for recurrences, the prognosis of which is contingent on the quality of the patient's care. The management of localized forms is based on broad surgery, with meticulous evaluation of the margins. Treatment is based on surgery.*** ***Objective:*** ***To describe the management of frontal Darier-Ferrand dermatofibrosarcoma.*** ***Observation:*** ***This is a 23-year-old patient, with no medical or surgical history, who had consulted the Department of Stomatology and Maxillofacial Surgery of the CHUO for frontal swelling that had been evolving for two months. The clinical examination revealed a swelling resting on an indurated surface. A biopsy was performed under local anaesthesia, and the anatomo-pathological result was a Darier-Ferrand dermatofibrosarcoma. Subsequent to this, a broad excision with substance loss coverage (PDS) from a thin skin graft on the inner side of the thigh was performed.*** ***Conclusion:*** ***Dermato fibrosarcoma is a skin tumor whose frontal location is unusual and very rare. Surgery with significant margins for resection in healthy areas, covering the loss of substance by skin grafting is the solution.***

***Keywords:*** ***Surgical treatment, Dermarofibrosarcoma, Recurrence.***

## 1. Introduction

Darier and Ferrand's dermatofibrosarcoma (DFS), first described by Jean Darier and Marcel Ferrand in 1924 [1], is a rare but not exceptional malignant cutaneous mesenchymal tumour with a high potential for recurrence [2]. The frontal

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location is unusual, and the disease typically occurs in adulthood, with a slight male predominance. The diagnosis is histopathological, and the management is based on good surgery with a very wide margin of resection [3].

## 2. Observation

The patient, Mr I I, aged 23, had sustained a frontal trauma as a result of a fall that had occurred three years prior. In December 2023, he sought consultation at the Department of Stomatology and Maxillofacial Surgery of Owendo (Gabon) due to a persistent frontal swelling that had been present for a duration of two months.

A thorough clinical examination was conducted, revealing a satisfactory general condition and adequate hydration levels. A frontal, medial swelling was observed at the level of the glabella, measuring approximately 2 cm in diameter, with a hard consistency and no apparent adhesion to the underlying bone. The integument was observed to be in a healthy state. No palpable lymphadenopathy was detected in the head and neck region (Fig. 1).

**Fig. 1.** Image on D0.

The patient was subjected to a CT scan of the facial mass with injection of the contrast agent, which revealed a hyperdense image measuring approximately 2 cm along its axis. This image did not demonstrate any infiltration of the bone, and no locoregional lymphadenopathy was observed.

A biopsy was performed on the initial day (D0) and the resultant pathology highlighted a Darier-Ferrand fibrosarcoma of low grade (Grade I) according to the French National Cancer Institute of Cancerology (FNCLCC) with two differentiations and one mitosis. The neoplasm was infiltrating and destroying striated muscle bundles. Consequently, a thoraco-abdomino-pelvic computed tomography scan was conducted to ascertain the presence of any metastases, which revealed no significant findings.

The decision arrived at during the multidisciplinary consultation meeting (RCP) was to proceed with surgery, with a high level of safety margins, followed by chemotherapy.

On the 28th day, the patient underwent an excision of the tumour under general anaesthesia (Fig. 2). The margins were set at 4 cm, and the loss of substance was covered by a thin skin graft taken from the inner side of the left thigh (Figs. 3-4).

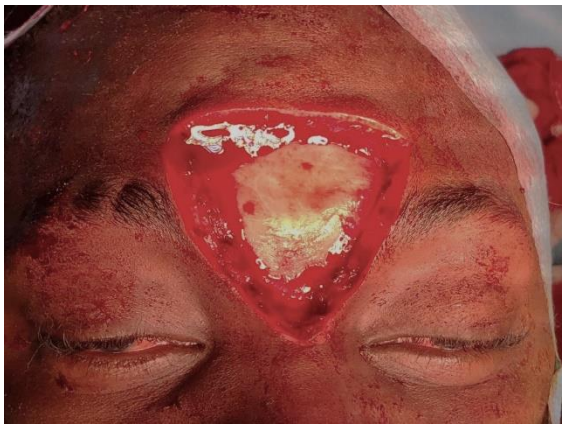

**Fig. 2.** Intraoperative tumor excision.

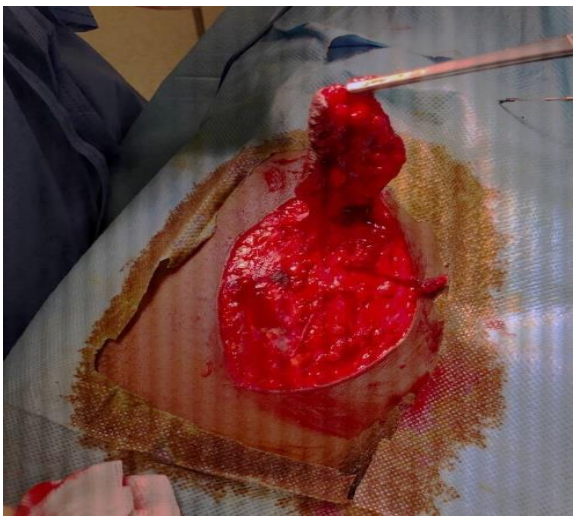

**Fig. 3.** Tissue removal for skin grafting.

**Fig. 4.** Immediate Post-operative image after performing the skin graft.

The result of the anatomical-cytopathological examination confirmed the diagnosis of dermatofibrosarcoma with good safety margins. Consequently, the chemotherapy regimen was halted. There has been no recurrence of the disease at the 4-month follow-up.

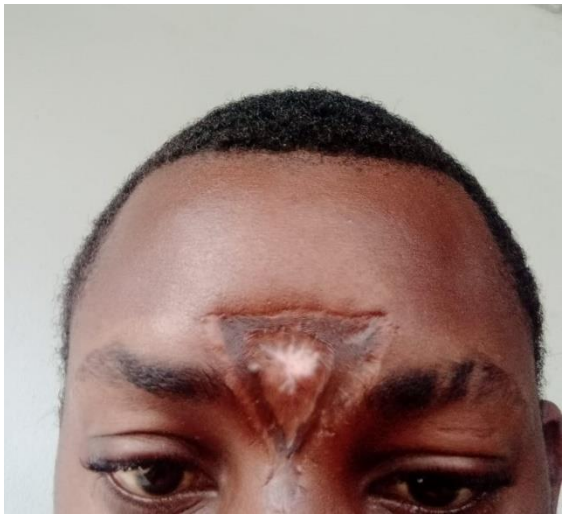

**Fig. 5.** Patient at 3 months postoperatively.

## 3. Discussion

Dergararofibrosarcoma (DFS) is a low-grade sarcoma in the majority of cases. It is a rare but not exceptional cutaneous malignancy affecting both sexes with a male predominance, as demonstrated by Driss et al. [4] and Joucdar et al. [5]. The age of onset of the condition is subject to variation, but it predominantly affects young adults, as was evidenced in the present study.

Taylor HE [6] established the initial correlation between trauma, its location, and the subsequent occurrence of DFS in the months that follow, or even years, as illustrated in our case. In contrast, Gloster [7] documented the occurrence of DFS on vaccination scars.

The duration of the consultation period was two months, which is analogous to the findings of Bendix [8] who reported a consultation period of three months to two years. However, this differs from the results of Joucdar [5] who identified a more protracted period.

Preferential locations in the trunk, upper and lower limbs have frequently been documented. A similar observation was made in relation to cephalic localization, which was identified in 6.7% of cases [9]. The utilisation of medical imaging techniques facilitates the visualisation of the tumour, its anatomical relationships, and its extension.

Micrographic surgery, first described by Mohs [10] in 1936, is a specific method used to excise and histologically examine cutaneous tumours. Its principle is based on a histological examination of all sections of the lesion to confirm the completeness of the excision. Depending on the extent of the loss of tissue following the removal of the tumour, the surgeon may use different methods of reconstruction. These can be locoregional flaps, free flaps or skin grafts. With a

margin of 05 cm as suggested by Kasse [11] and Joucdar [5], we opted for a skin graft to allow closure and facilitate monitoring and early detection of recurrence [12]. The crucial difference between standard histological analysis of a surgical specimen and the technique used in micrographic surgery is the exhaustive nature of the examination of the margins of the specimen. Nawal et al. found a recurrence rate of 32.4% with margins of less than 3 cm (Table 1).

**Table 1:** Surgical Technique.

| | **< 3*Cm* Margin** | **> 3*Cm* Margin** | **Micrography** | **Recurrence (after 1 year)** |
|---|---|---|---|---|
| Nawal H et al (2014) | 0 | 27 | 0 | 12 |
| Chaput B et al (2014) | 0 | 0 | 35 | 0 |
| Bouazzaoui (2021) | 0 | 0 | 14 | 0 |
| Mr II | 0 | 1 | 0 | 0 |

## 4. Conclusion

Dermatofibrosarcoma is a skin tumour whose cervicofacial location, particularly in the frontal region, is unusual. Surgery with wide margins for resection in a healthy area and covering the loss of substance with a skin graft is one of the best solutions to frontal localisation, which can jeopardise the functional and aesthetic prognosis of the face.

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