

Dermatofibroma

Synonym: fibrous histiocytoma

Dermatofibromas are common and benign skin tumours but frequently cause concern upon discovery.

Aetiology

Traditionally, dermatofibromas were attributed to a reaction to trauma such as insect bites. However, the precise aetiology is unclear. Some believe them to be benign neoplasms rather than reactive in origin.

The most common dermatofibromas contain a mixture of fibroblasts, macrophages and blood vessels. Most involve the dermis and may extend to the subcutis. A number of less common variants where the histology differs, such as the aneurysmal fibrous histiocytoma, hemosiderotic fibrous histiocytoma, cellular fibrous histiocytoma and epithelioid fibrous histiocytoma, have been described^[1]. Different types are associated with different behaviours and outcomes.

Epidemiology^[2]

- They are more frequent in women than in men.
- They can occur at any age, most commonly in young adulthood.
- They are more common and more numerous in those with immunosuppression.

Presentation^[2] ^[3]

- Dermatofibromas are usually single nodules that develop on an extremity, most commonly the lower legs. They are freely moving, firm-to-hard nodules of 0.5–1.0 cm diameter.

- The skin's surface is generally smooth, occasionally scaly. The overlying skin may be tethered, causing it to dimple when pinched. The skin colour varies from skin-coloured to pink/red to cream/white to brown.



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- Dermatofibromas can occur at *any* skin site and individuals may have several lesions (up to 15).
- Multiple variants tend to occur where immunity is impaired (eg, autoimmune disease, systemic lupus erythematosus, HIV, leukaemia).
- The nodule is usually asymptomatic but can be itchy or tender.
- After initial growth, they tend to remain static in size.

Diagnosis

- Diagnosis is usually straightforward provided you palpate the lesion, as few other skin lesions are as firm.
- The pinch test is helpful (but not definitive): squeezing the lesion from the sides results in dimpling of overlying skin.

- With a dermatoscope, dermatofibromas typically show a pigment network and central white patch but there is considerable variation^[4]. One study noted a difference in dermatoscopy appearance depending on location of the lesion^[5].
- Excision biopsy is useful where diagnostic uncertainty remains after examination.

Differential diagnosis

Includes:

- Atypical mole.
- Basal cell carcinoma.
- Keloid or hypertrophic scar.
- Keratoacanthoma.
- Malignant melanoma.
- Metastatic carcinoma of the skin.
- Spitz' naevus.
- Blue naevus.
- Squamous cell carcinoma.

Deep penetrating dermatofibromas may be difficult to distinguish, even histologically, from rare malignant fibrohistiocytic tumours – eg, dermatofibrosarcoma protuberans^[6].

Dermatofibroma treatment and management

- Reassure – generally no treatment is required.
- Remove where cosmetically disliked, symptomatic or there is diagnostic uncertainty. Note that there is a significant local recurrence rate.
- Removal by elliptical excision or punch biopsy usually provides the most satisfactory results: shave excision or cryotherapy have higher risks of incomplete excision and recurrence.

A Dutch study showed about 2% of GP subcutis excisions yield unexpected or rare malignancies, and UK studies have shown a lack of reliability in GP diagnosis of skin malignancy^[7] ^[8]. Therefore, even where excision is for cosmetic or symptomatic reasons, it is nonetheless worth sending specimens to histology.

When to refer

Referral is normally indicated only for diagnostic uncertainty, to differentiate from other potentially harmful pigmented lesions.

Prognosis

- Dermatofibromas are almost invariably benign – there are extremely rare case reports of metastasising cellular dermatofibromas, although histological distinction from other tumours can prove difficult^[9]. Follow up lesions that are histologically atypical or undergo recurrence.
- Most are static and persist indefinitely although, uncommonly, they spontaneously regress.
- The cellular type tends to become larger and, as above, has occasionally been reported to metastasise.
- They may become repeatedly irritated – by shaving, for example.

Further reading

- [Higgins JC, Maher MH, Douglas MS](#); Diagnosing Common Benign Skin Tumors. Am Fam Physician. 2015 Oct 1;92(7):601–7.
- [Marghoob AA, Usatine RP, Jaimes N](#); Dermoscopy for the family physician. Am Fam Physician. 2013 Oct 1;88(7):441–50.
- [Myers DJ, Fillman EP](#); Dermatofibroma. StatPearls, Sept 2021.
- [Dermatofibroma](#); DermIS.

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