

DFSP) (dermatofibrosarcoma protuberans, (Fig. 1C, D).  
 Darier Ferrand 1924 , 가 ,  
 Hoffmann "dermatofibrosarcoma protuberans" 1925 가 (Fig.  
 (1). DFSP 1D).  
 (2).  
 DFSP 1  
 5 x 4 cm 가 (Fig. 2A).  
 28 가 5 (storiform)  
 가 가 DFSP (Fig. 2B, C),  
 가 activity) 7 - 8/10HPF (mitotic  
 CD34  
 5 cm 7  
 가 (Fig. 1A, B).  
 10 5 cm 5 x 3.6  
 x 2.4 cm 가  
 DFSP  
 가

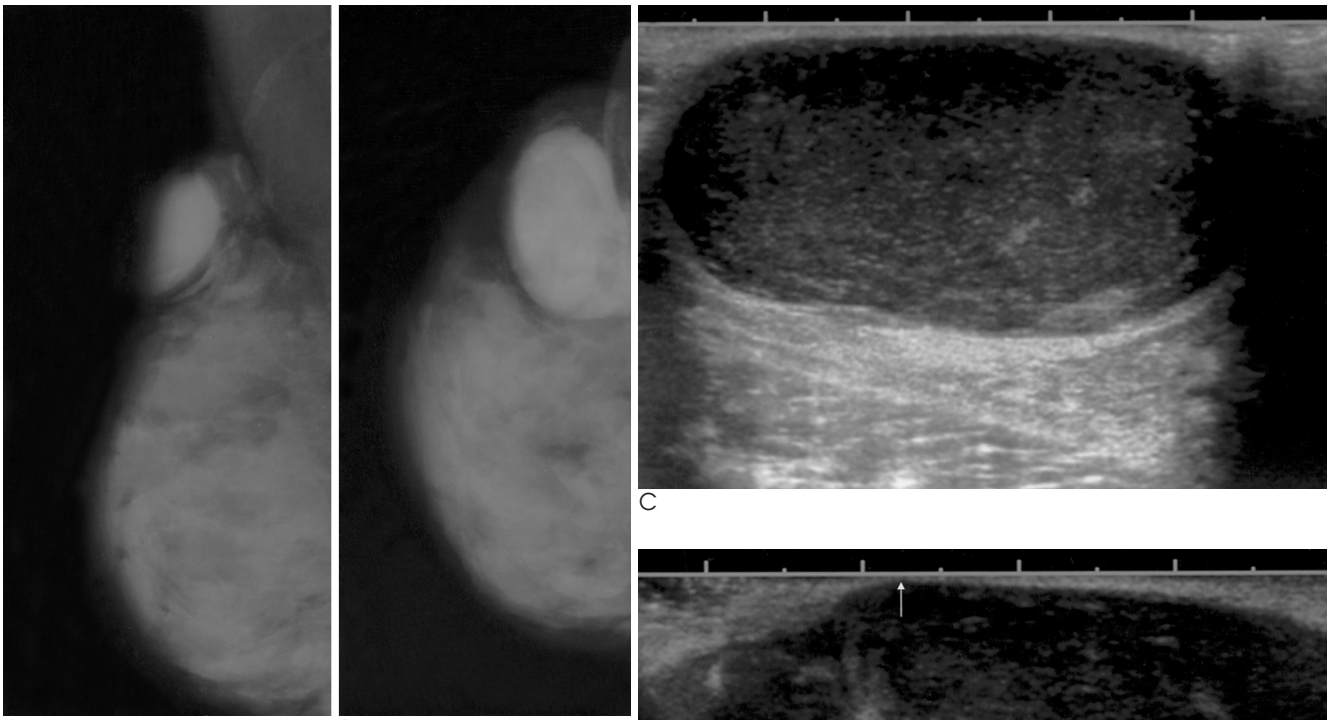
1  
 2  
 3

(3). 10 40 27 DFSP 1  
5

(7), DFSP Fukushima (7)  
가 DFSP

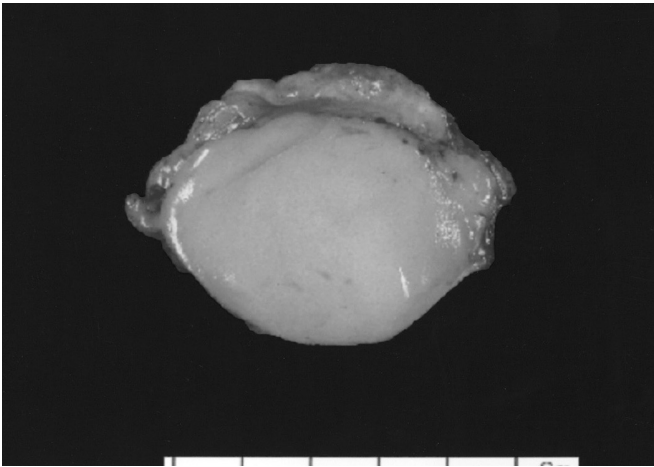
(6) (smallpox) DFSP , De Wilde (5) 71  
, Green , Karcnik (9) 가 가  
DFSP 가 가  
(redness) , Valli (8)

DFSP 가 Fukushima (7) 5 가  
3 1 (Fig. 1D)  
, Valli (8)

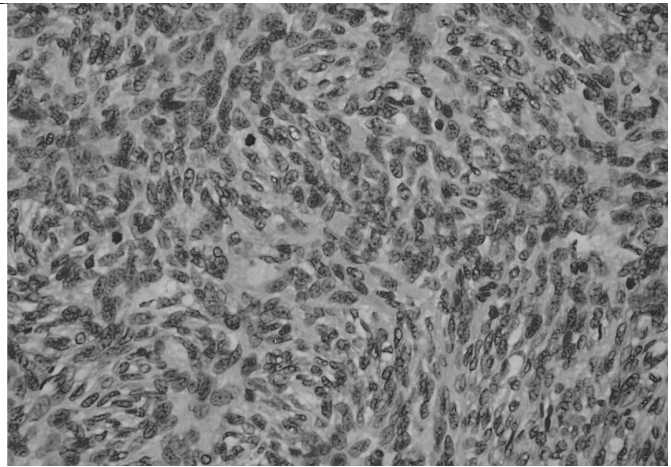


A B

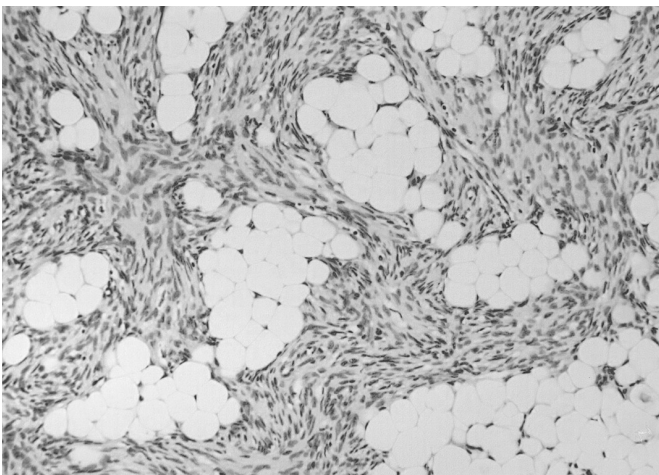
Fig. 1. Radiologic findings of dermatofibrosarcoma protuberans in a 28-years-old woman.  
A, B. Mediolateral oblique and craniocaudal view of mam-mogram show a 5 cm sized, well-circumscribed, oval shaped, high density mass in the upper outer quadrant of the right breast.  
C, D. Ultrasonograms show a superficially located, well-circumscribed hypoechoic mass with increased through transmission, simulating a benign neoplasm. The tumor is very superficially located with thinning and atrophy of overlying skin (white arrow). There is gentle lobulation and partially irregular margin (black arrow) at lower aspect of the tumor.



A



B



C

Fig. 2. Pathologic findings of dermatofibrosarcoma protuberans in a 28-year-old woman.

A. Gross specimen reveals ill-defined yellow gray rubbery mass involving dermis and subcutaneous tissue, measuring 5 × 4 cm in size.

B. Photomicrograph of the tumor shows a uniform cellular proliferation of plump, spindle shaped fibroblasts in prominent storiform growth pattern with mitotic activity. Monomorphic plump spindle cells show elongated nuclei (H & E, × 400) .

C. There is characteristic massive diffuse infiltration of fibroblast between fat cells in subcutaneous tissue (H & E, × 200).

(10), Zee (4)  
 (storiform) (14),  
 (4, 10), (4).  
 (entrapped), (storiform),  
 (7). CD34 (immunore -  
 activity) 가 (4, 8).  
 , 가  
 15

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- Hoffmann E. Uber das knollentribende Fibrosarkom der Haut (Dermatofibrosarcoma protuberans). *Dermat Ztschr* 1925;43:1-28
- Bendix-Hansen K, Myhre-Jensen O, Kaae S. Dermatofibrosarcoma protuberans: a clinicopathological study of nineteen cases and review of world literature. *Scand J Plast Reconstr Surg* 1983;17:247-252
- Sakuragi T, Fujiwara K, Akashi-Tanaka S, Tsuda H, Fukutomi T. A case of dermatofibrosarcoma protuberans in the skin over the breast. *Breast Cancer* 1997;4(1):53-56
- Zee SY, Wang Q, Jones CM, Abadi MA. Fine needle aspiration cy-

tology of dermatofibrosarcoma protuberans presenting as a breast mass. A case report. *Acta Cytol* 2002;46(4):741-743

5. De Wilde R, Hesselting M, Holzgreve W, Raas P. Traumatically-induced dermatofibrosarcoma protuberans of the breast. *Zentralbl Gynakol* 1988;110:633-635

6. Green JJ, Heymann WR. Dermatofibrosarcoma protuberans occurring in a smallpox vaccination scar. *J Am Acad Dermatol* 2003; 48:S54-S55

7. Fukushima H, Suda K, Matsuda M, et al. A case of dermatofi-

rosarcoma protuberans in the skin over the breast of a young woman. *Breast Cancer* 1998;5(4):407-409

8. Valli R, Rossi G, Natalini G, Losi L. Dermatofibrosarcoma protuberans of breast. *Pathologica* 2002;94:310-313

9. Karcnik TJ, Miller JA, Fromowitz F, Abujudeh H, Hertz MB. Dermatofibrosarcoma protuberans of the breast: a rare malignant tumor simulating benign disease. *Breast J* 1999;5:262-263

10. Rosen PP. *Rosen's breast pathology*. Philadelphia: Lippincott-Raven, 2001: 825-827

## Dermatofibrosarcoma Protuberance of the Breast: Case Report<sup>1</sup>

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Dermatofibrosarcoma protuberans is a rare cutaneous soft tissue neoplasm with the potential for intermediate malignancy, and is characterized by local invasion and recurrence. It can occur at almost any site, but usually arises in the trunk and extremities. Dermatofibrosarcoma protuberans mimicking a primary breast lesion has not previously been reported in Korea. We report on the case of a 28-year-old female patient with dermatofibrosarcoma protuberans on one of her breasts, which is a very unusual site.

**Index words** : Dermatofibrosarcoma protuberans  
Breast  
Spindle cell neoplasm

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