

Dermatofibrosarcoma Protuberans (DFSP): Focus on head & neck area of DFSP

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Objective of the study

- Recurrence more common in head & neck area due to delayed presentation & anatomical & cosmetic consideration
- Recurrence risk factor of DFSP?
- Head & neck DFSP WLE* margin 3cm?
- Modified surgical margin or adjuvant therapy?

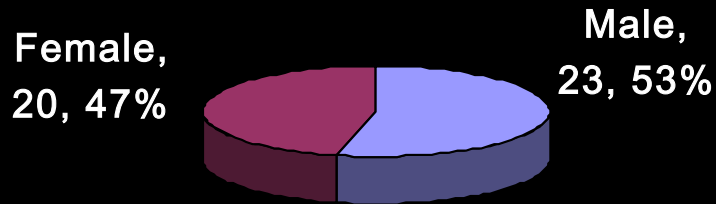
* Wide local excision

Materials & methods

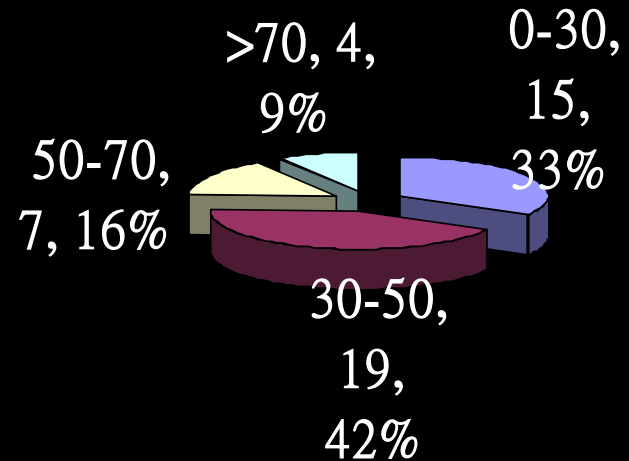
- Retrospective study: 1995~2013; 43 pts with DFSP.
- Review: tumor characteristics, treatment course, follow-up information.
- Analysis: sex, age, location, size, pathology, surgery type, adjuvant treatment, local recurrence, & metastasis

Result

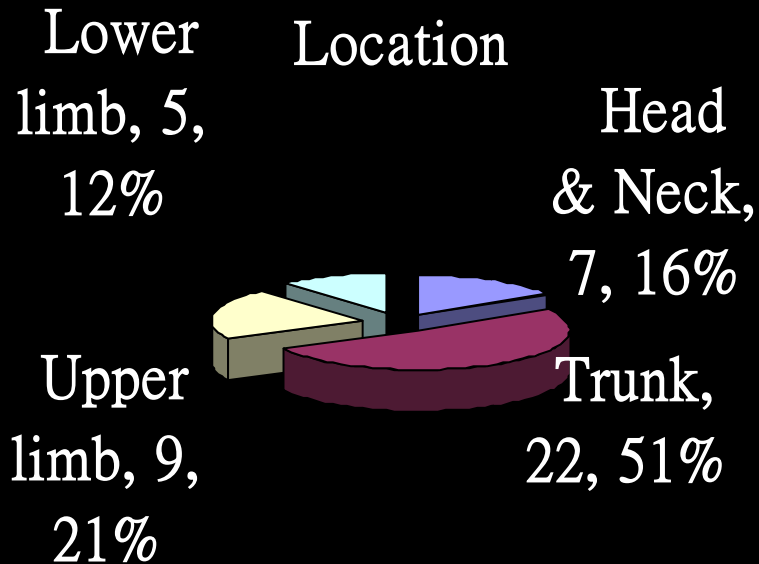
Sex



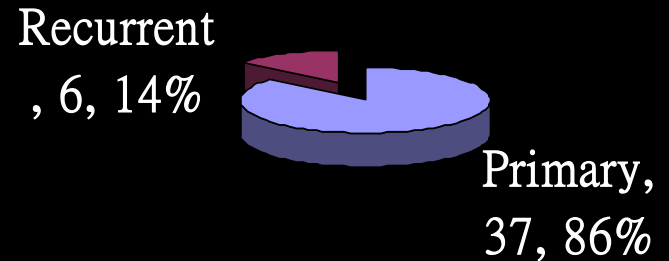
Age



Location



Initial presentation



Head & Neck group

- Median age: 45
- Tumor size: 3.29cm (2~5cm)
- Surgical margin: 1.4 cm (0~3cm)
- Reconstruction: Local flap: 6, STSG: 1
- Follow up years: 1~7 years
- Fibrosarcomatous-DFSP: 28.6 %
- Recurrence rate: 28.6%
- Distant metastasis rate: 14.3%

Head & Neck group

Patient	1	2	3	4	5	6	7
Age	52	80	29	45	45	29	42
Sex	M	F	M	M	F	F	M
Presentation	Recurrence	Primary	Primary	Primary	Primary	Primary	Primary
Site	Neck	Scalp	Nose	Cheek	Scalp	Scalp	Nose
Size	3	3	2	4	5	3	3
Surgical Margin	2	3	1	1	2	1	Mohs
Pathology Margin	Close	Negative	Positive	Negative	Close	Close	Positive
Subtype	FS-DFSP	FS-DFSP	DFSP	DFSP	DFSP	DFSP	DFSP
Result	LR+ DM* ¹	LC	LR	LC	LC	LC	LC
R/T dose (Gy)	66	-	-	-	-	-	66
Follow-up (y)	5	1	2	4	2	7	0.5

* Patient 1: After adjuvant R/T, no recurrence developed;
Lung metastasis s/p LLL lobectomy 2010/3

LR: Local recurrence
DM: Distant metastasis

Discussion -Risk factor analysis

Summary of patient characteristics v.s Recurrence rate

Variable	No.	% of Total	Recurrence	p value*
Sex				
Male	23	53	4	0.487
Female	20	47	2	
Age				
0-30	15	33	3	0.234
30-50	19	42	2	
50-70	7	15	1	
>70	4	10	0	

Summary of Patient Characteristics

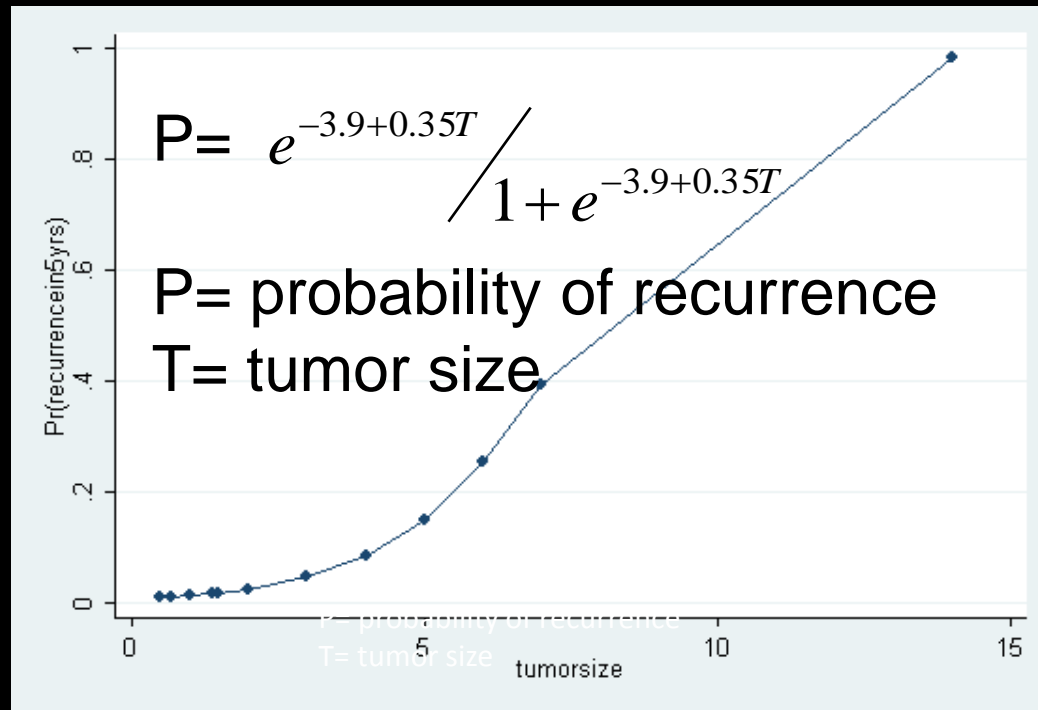
Variable	No.	% of Total	Recurrence	p value*
Presentation				
Primary	37	91	2	0.005*2
Recurrent	6	9	4	
Location				
Head & Neck	7	16	2	0.05*3
Trunk	22	51	2	
Upper extremity	9	21	2	
Lower extremity	5	12	0	

* Fisher's exact test

*2 OR: 17.5 ; p value: 0.005, CI: 2.39~127

*3 OR: 8.75 ; p value: 0.05, CI: 0.9~80

Tumor size > 6cm had higher recurrence rate



Cut value (cm)	3	4	5	6
P value	0.27	0.27	0.12	0.03
OR	3.2	3.2	5.3	11.6
95 % CI	0.35-38.9	0.39-26.25	0.62- 45.5	1.18-114

* Logistic linear regression analysis

Pathology margin **close/positive** & **FS-DFSP** had higher recurrence rate

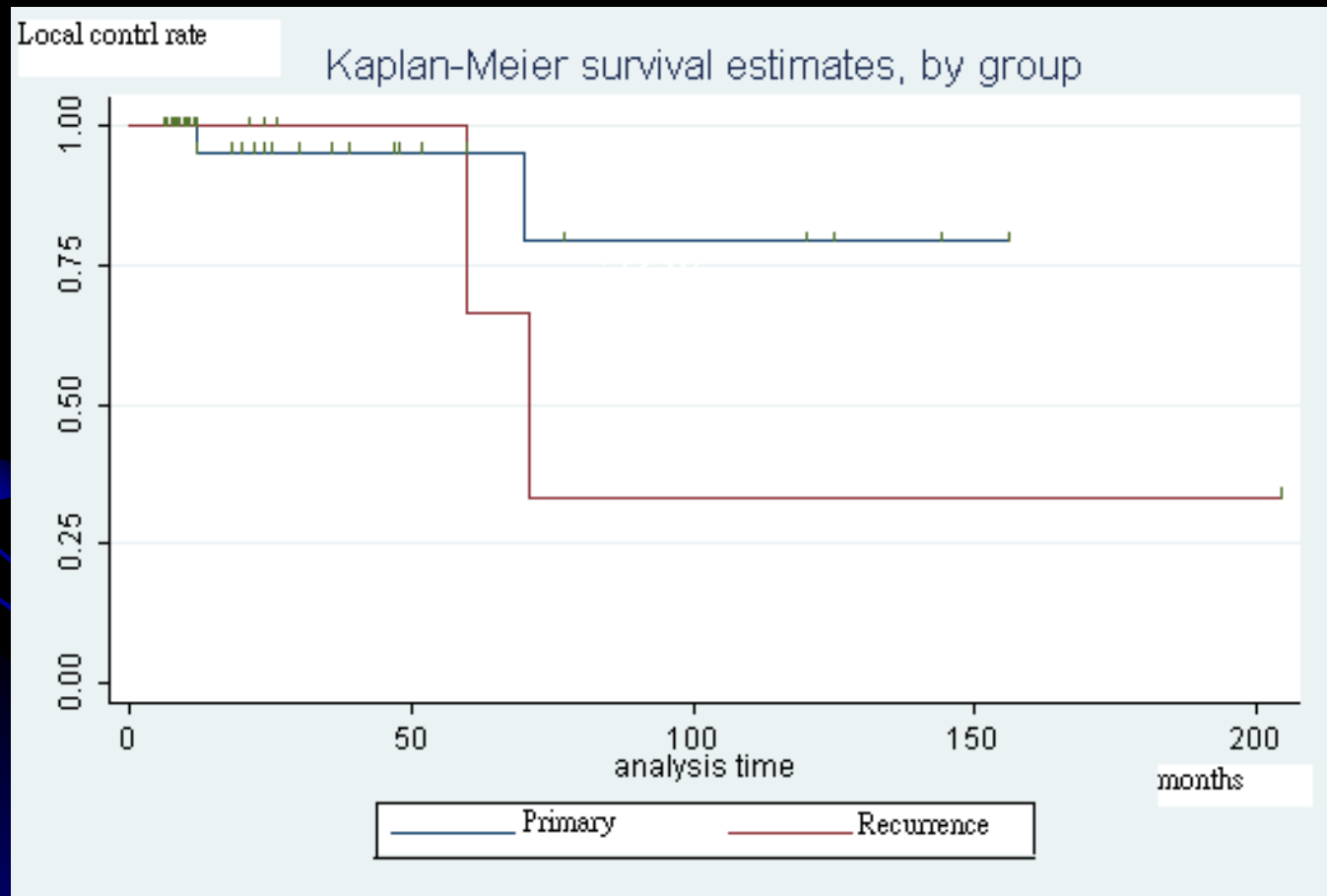
Pathology description	Close/ Positive v.s Free	FS-DFSP vs. ordinary spindle cell type	CD34(+) vs. CD34(-)
P value	0.011^{*1}	0.049^{*2}	0.6
OR	n/a	16.5	0.5
95 % CI	n/a	1.46 -186	0.03- 6.86

*1 Fisher's exact test;

*2 Logistic regression: P-0.049, OR-9.25, CI: 1~84

Local control rate

- Primary presentation group still had better survival tendency



* Log-rank test for equality of survivor functions $p=0.23$

Discussion-Key factors in H&N group

- WLE is the only way to reduce recurrence
→ But **easy violated in H & N** area.
- Our result: **Size>6cm, FS-DFSP, Pathology margin close/ positive, Recurrent** group, → higher recurrence rate

*1. Bowne: recurrent, age>50, FS-DFSP → worse outcome & higher local invasion & metastasis*1

- Apply Post-op R/T 50~60cGy if the resection margin inadequate or FS-DFSP*2

*Wilbur B. Bowne, Cancer 2711–2720, 15 June 2000

* Ballo M., International Journal of Radiation Oncology 40:823-827, 1998

Case present: 45 y/o Male: Face DFSP, Margin positive



Received post op R/T 6600cGy
No recurrence developed for 2 years

Significance of the findings

Recurrence risk factor:

- Tumor size > 6cm
 - FS-DFSP
 - Pathology margin close/positive
 - Recurrence group
 - Head & Neck area
- Suggest adjuvant R/T in high risk pts to achieve local control & prevent distant disease.

Head & Neck area DFSP

High Risk

Low Risk

Size > 6cm
FS-DFSP
Recurrence group

Small size
Normal DFSP
Primary group

Scalp & Neck

Face

Closer margin +
Routine follow up

3cm WLE
+/- RT

Closer margin
+ R/T

R/T Protocol:
Margin close: 6000cGY
Recurrence: 6600-7000cGY